

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: P332655-935

Luminaire Tested: **S124DIP-S1020D1035U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332655-935
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: S124DIP-S1020D1035U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7181.8 lumens
Efficiency: N/A
Efficacy: 118.7 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

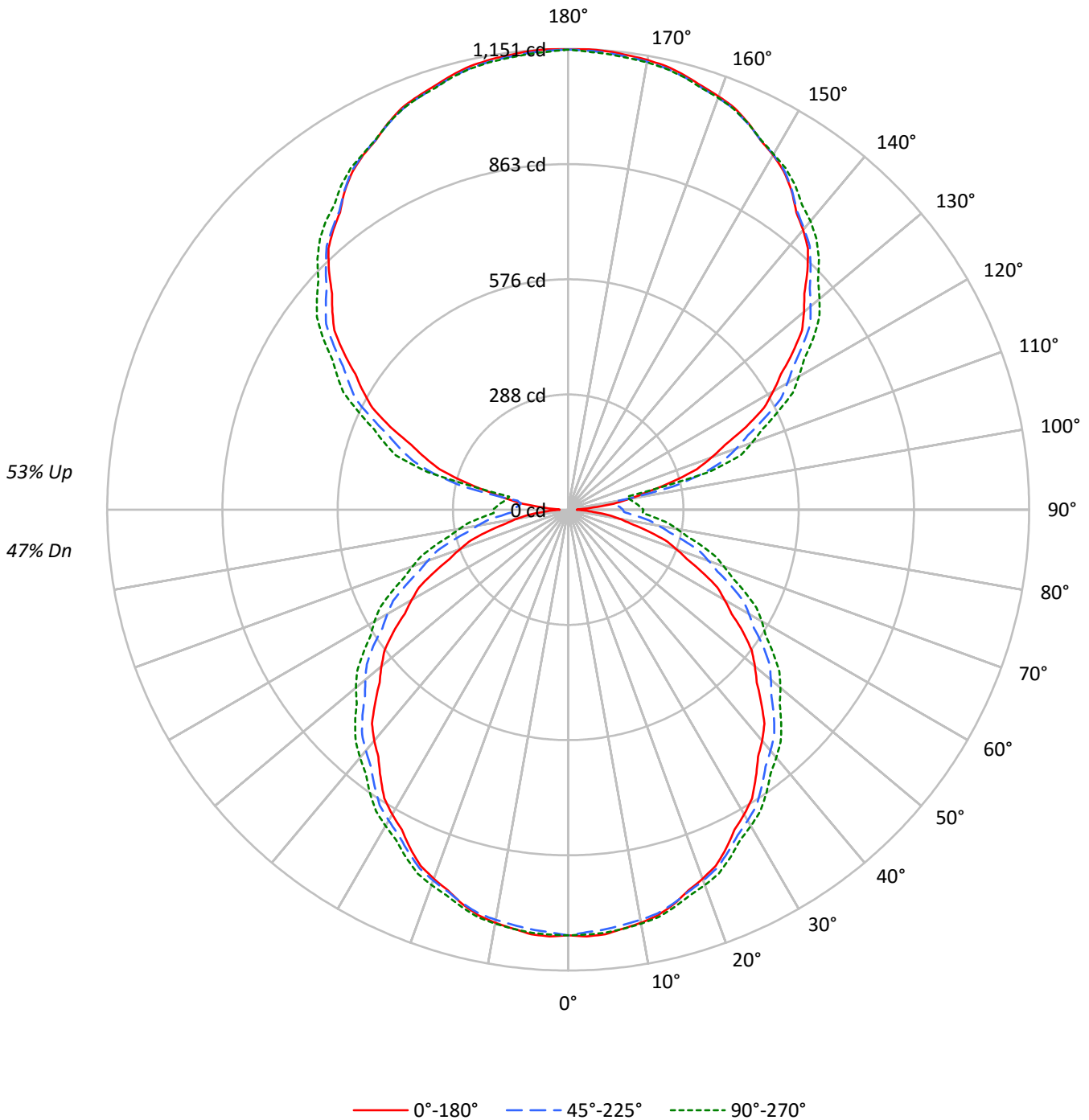
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332655-935

CATALOG NUMBER: S124DIP-S1020D1035U935-4F0-1E-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	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53	47
1	96	91	87	83	88	84	80	77	70	67	65	57	55	54	45	44	43	37
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	39	37	35	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	25
4	72	61	53	47	66	56	49	43	47	42	37	39	34	31	31	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	28	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	22	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	15	12	10

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	1.4
10°-20°	288.4	4.0
20°-30°	436.1	6.1
30°-40°	527.7	7.3
40°-50°	557.9	7.8
50°-60°	525.0	7.3
60°-70°	435.6	6.1
70°-80°	306.0	4.3
80°-90°	176.3	2.5
90°-100°	142.0	2.0
100°-110°	326.6	4.5
110°-120°	530.4	7.4
120°-130°	637.3	8.9
130°-140°	663.6	9.2
140°-150°	611.4	8.5
150°-160°	491.0	6.8
160°-170°	316.7	4.4
170°-180°	109.2	1.5
0°-30°	825.2	11.5
0°-40°	1352.9	18.8
0°-60°	2435.8	33.9
0°-90°	3353.6	46.7
90°-120°	999.1	13.9
90°-150°	2911.4	40.5
90°-180°	3828.0	53.3
0°-180°	7181.8	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	79	137	175	188	15
95°	63	75	122	158	171	73
105°	269	300	347	381	363	283
115°	490	505	541	568	577	483
125°	684	687	714	738	747	611
135°	845	845	856	876	885	651
145°	972	974	974	982	988	608
155°	1065	1066	1063	1066	1064	491
165°	1123	1119	1119	1125	1118	317
175°	1149	1144	1145	1152	1142	109
180°	1149	1149	1149	1149	1149	



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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°	35.7	46.9	58.2	69.4	80.6	92.1	104.0	116.0	127.9	139.7	147.7
90°	21.6	34.3	47.0	59.7	72.3	85.2	98.1	111.0	123.9	136.7	145.6
92.5°	28.9	38.6	48.2	57.9	67.5	78.8	91.6	104.5	117.4	130.4	139.0
95°	62.8	65.0	67.2	69.5	71.7	78.4	89.4	100.4	111.4	122.4	130.8
97.5°	114.4	126.0	137.6	149.1	160.7	161.2	150.6	140.0	129.5	118.9	126.0
100°	154.0	164.4	174.7	185.0	195.4	192.4	176.4	160.4	144.3	128.3	132.2
102.5°	199.4	208.0	216.5	225.1	233.7	241.3	247.9	254.6	261.2	267.9	239.8
105°	269.4	275.9	282.3	288.8	295.2	303.8	314.5	325.3	336.0	346.7	355.1
107.5°	336.4	341.3	346.2	351.1	356.0	363.8	374.4	384.9	395.5	406.0	413.4
110°	380.8	385.1	389.3	393.6	398.0	405.3	415.7	426.1	436.5	446.9	453.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	423.9	428.2	432.5	436.8	441.1	448.0	457.4	466.7	476.0	485.4	491.3
115°	490.2	493.2	496.1	499.0	502.0	507.6	515.9	524.2	532.4	540.7	546.9
117.5°	551.0	553.2	555.3	557.6	559.7	565.0	573.3	581.6	589.9	598.2	603.6
120°	591.2	592.8	594.4	596.0	597.5	602.0	609.5	617.0	624.5	632.0	637.7
122.5°	629.8	630.4	631.0	631.6	632.2	636.3	643.9	651.3	658.8	666.4	671.9
125°	683.8	684.2	684.8	685.3	685.8	689.1	695.3	701.6	707.8	714.0	719.6
127.5°	735.8	735.7	735.6	735.6	735.5	738.5	744.4	750.4	756.3	762.2	766.9
130°	768.5	768.4	768.4	768.4	768.3	770.6	775.4	780.2	785.1	789.8	794.8
132.5°	799.4	799.5	799.6	799.7	799.8	801.8	806.0	810.1	814.2	818.4	823.1
135°	844.7	844.5	844.3	844.1	844.0	845.2	847.7	850.4	853.0	855.6	860.2
137.5°	885.8	885.6	885.4	885.2	885.0	885.8	887.5	889.3	891.0	892.8	897.1
140°	912.6	912.7	912.8	912.9	913.1	913.4	914.1	914.7	915.4	916.0	920.1
142.5°	935.7	936.3	937.0	937.6	938.2	938.6	938.7	938.7	938.8	938.9	942.4
145°	972.4	972.8	973.0	973.4	973.7	973.8	973.8	973.8	973.8	973.8	975.6
147.5°	1001.9	1002.6	1003.4	1004.3	1005.0	1005.4	1005.1	1005.0	1004.8	1004.6	1005.0
150°	1023.1	1023.6	1024.2	1024.7	1025.1	1025.3	1025.1	1024.9	1024.8	1024.5	1024.5
152.5°	1040.1	1040.6	1041.2	1041.7	1042.3	1042.4	1042.1	1041.7	1041.4	1041.0	1041.4
155°	1065.0	1065.1	1065.3	1065.5	1065.7	1065.5	1065.0	1064.4	1063.8	1063.2	1063.9
157.5°	1086.1	1086.0	1085.8	1085.7	1085.6	1085.2	1084.6	1083.9	1083.3	1082.6	1083.7
160°	1098.5	1097.9	1097.3	1096.7	1096.1	1095.8	1095.6	1095.4	1095.2	1095.0	1096.1
162.5°	1109.5	1108.7	1108.0	1107.2	1106.6	1106.1	1105.9	1105.7	1105.5	1105.4	1106.5
165°	1123.3	1122.4	1121.5	1120.5	1119.6	1119.0	1119.0	1119.0	1119.0	1119.0	1120.6
167.5°	1134.4	1133.4	1132.4	1131.4	1130.4	1129.9	1129.7	1129.6	1129.5	1129.4	1131.1
170°	1140.6	1139.4	1138.2	1137.1	1136.0	1135.5	1135.7	1135.9	1136.1	1136.3	1137.8
172.5°	1144.7	1143.6	1142.4	1141.3	1140.1	1139.6	1139.8	1140.1	1140.2	1140.4	1141.9
175°	1149.2	1148.1	1146.9	1145.7	1144.6	1144.1	1144.3	1144.5	1144.7	1144.9	1146.6
177.5°	1151.2	1150.1	1149.1	1148.1	1146.9	1146.6	1146.9	1147.2	1147.5	1147.8	1149.0
180°	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2



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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°	155.5	163.4	171.3	176.5	178.9	181.3	183.7	186.1
90°	154.4	163.2	172.0	177.7	180.2	182.7	185.2	187.7
92.5°	147.6	156.2	164.8	170.2	172.4	174.6	176.8	178.9
95°	139.1	147.3	155.7	161.1	163.6	166.2	168.8	171.3
97.5°	132.9	140.0	147.1	151.8	154.3	156.8	159.2	161.7
100°	136.1	140.0	143.9	146.8	148.9	150.9	153.0	155.0
102.5°	211.7	183.7	155.5	142.5	144.6	146.7	148.9	150.9
105°	363.4	371.7	380.0	381.9	377.1	372.3	367.6	362.8
107.5°	420.7	428.1	435.4	440.4	443.0	445.7	448.3	450.9
110°	459.9	466.3	472.8	477.3	480.0	482.8	485.4	488.1



TEST NUMBER: P332655-935

CATALOG NUMBER: S124DIP-S1020D1035U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	497.1	502.8	508.7	513.0	515.8	518.7	521.5	524.3
115°	553.1	559.3	565.5	569.6	571.4	573.3	575.1	577.0
117.5°	609.1	614.5	619.9	623.6	625.7	627.8	629.7	631.8
120°	643.3	648.9	654.6	658.3	660.0	661.9	663.6	665.3
122.5°	677.4	682.9	688.5	692.0	693.5	695.0	696.5	698.1
125°	725.2	730.9	736.5	740.1	741.9	743.7	745.5	747.3
127.5°	771.5	776.2	780.8	784.0	785.7	787.3	788.9	790.6
130°	799.7	804.7	809.6	812.9	814.5	816.1	817.7	819.2
132.5°	827.9	832.6	837.3	840.4	841.8	843.3	844.7	846.1
135°	864.9	869.4	874.1	877.4	879.3	881.3	883.3	885.3
137.5°	901.3	905.6	909.9	912.7	913.9	915.1	916.3	917.5
140°	924.0	928.1	932.1	934.9	936.3	937.9	939.4	940.9
142.5°	945.7	949.2	952.6	954.9	956.1	957.3	958.4	959.5
145°	977.4	979.1	980.9	982.6	984.0	985.4	986.9	988.3
147.5°	1005.3	1005.6	1006.1	1006.8	1007.8	1008.8	1009.9	1010.9
150°	1024.5	1024.5	1024.5	1024.6	1024.8	1025.0	1025.2	1025.4
152.5°	1041.6	1042.0	1042.2	1042.3	1042.2	1042.2	1042.0	1041.9
155°	1064.7	1065.5	1066.3	1066.3	1065.8	1065.2	1064.6	1064.1
157.5°	1084.6	1085.6	1086.6	1086.6	1085.6	1084.6	1083.7	1082.6
160°	1097.3	1098.5	1099.6	1099.6	1098.5	1097.3	1096.1	1095.0
162.5°	1107.6	1108.8	1109.9	1109.8	1108.5	1107.2	1106.0	1104.7
165°	1122.1	1123.7	1125.2	1125.1	1123.3	1121.6	1119.9	1118.2
167.5°	1132.7	1134.5	1136.1	1136.0	1134.1	1132.2	1130.2	1128.3
170°	1139.4	1140.8	1142.4	1142.2	1140.3	1138.4	1136.4	1134.5
172.5°	1143.5	1145.0	1146.5	1146.2	1144.2	1142.1	1140.1	1138.0
175°	1148.3	1150.0	1151.8	1151.4	1149.2	1146.9	1144.6	1142.3
177.5°	1150.2	1151.4	1152.7	1152.4	1150.6	1148.7	1146.9	1145.0
180°	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2

(END OF REPORT)