

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: P332664-935

Luminaire Tested: **S124DIP-S1020D1205U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332664-935
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-S1020D1205U935-4F0-1E-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: 7765.2 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

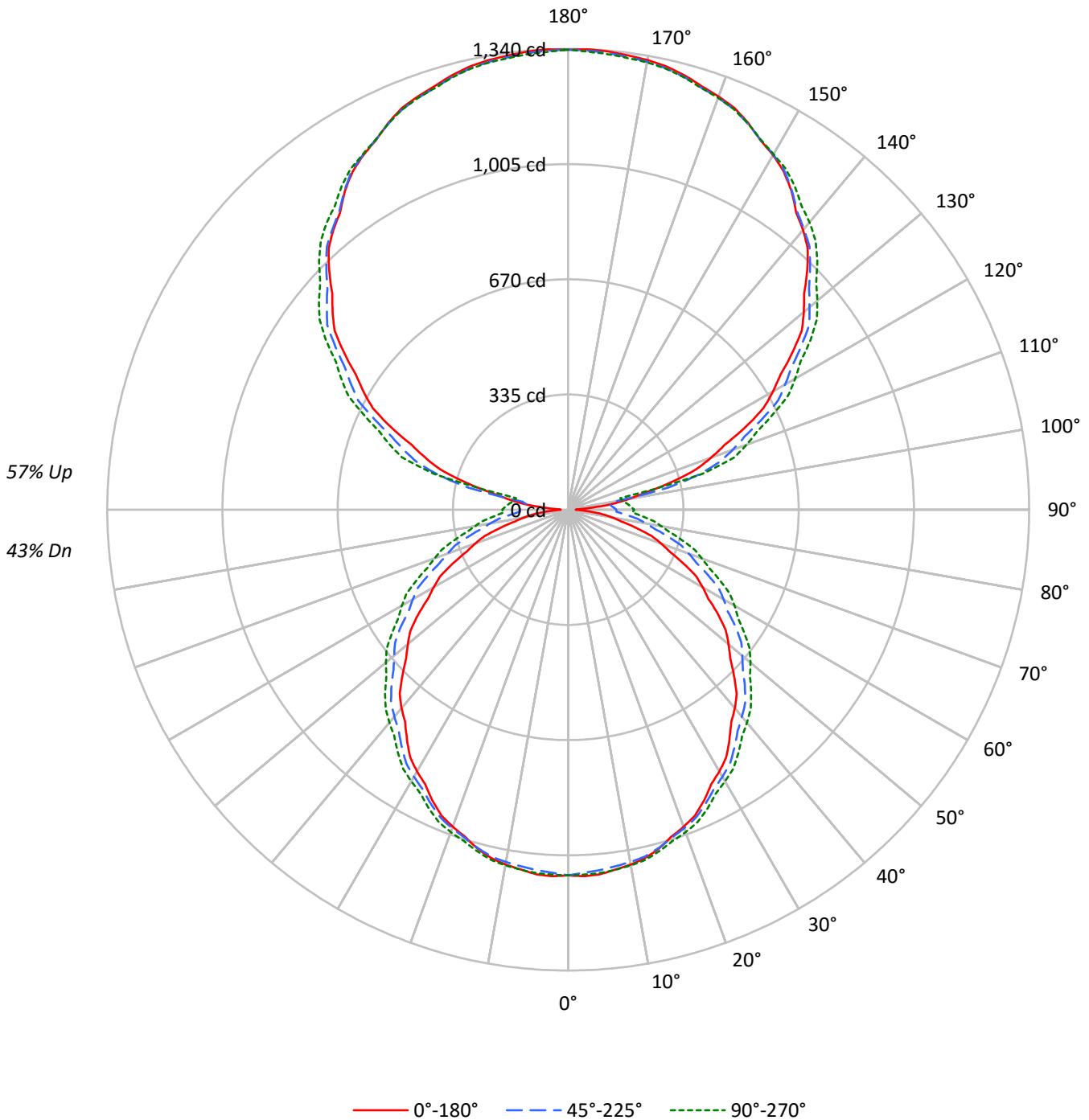
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332664-935

CATALOG NUMBER: S124DIP-S1020D1205U935-4F0-1E-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	96	96	96	96	80	80	80	64	64	64	50	50	50	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°	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	1.3
10°-20°	288.4	3.7
20°-30°	436.1	5.6
30°-40°	527.7	6.8
40°-50°	557.9	7.2
50°-60°	525.0	6.8
60°-70°	435.6	5.6
70°-80°	306.0	3.9
80°-90°	176.8	2.3
90°-100°	148.5	1.9
100°-110°	367.7	4.7
110°-120°	609.0	7.8
120°-130°	737.1	9.5
130°-140°	770.3	9.9
140°-150°	711.2	9.2
150°-160°	571.5	7.4
160°-170°	368.6	4.7
170°-180°	127.0	1.6
0°-30°	825.2	10.6
0°-40°	1352.9	17.4
0°-60°	2435.8	31.4
0°-90°	3354.1	43.2
90°-120°	1125.2	14.5
90°-150°	3343.9	43.1
90°-180°	4411.0	56.8
0°-180°	7765.2	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	81	140	179	192	15
95°	70	78	126	162	176	83
105°	312	343	391	426	403	327
115°	569	584	620	647	657	561
125°	795	799	826	850	860	710
135°	983	983	994	1015	1024	757
145°	1132	1133	1134	1142	1148	707
155°	1240	1240	1238	1241	1238	571
165°	1308	1303	1303	1310	1302	369
175°	1338	1332	1333	1340	1330	127
180°	1338	1338	1338	1338	1338	



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CATALOG NUMBER: S124DIP-S1020D1205U935-4F0-1E-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°	35.8	47.1	58.4	69.7	80.9	92.6	104.5	116.5	128.4	140.3	148.3
90°	22.0	35.0	48.1	61.1	74.1	87.2	100.4	113.6	126.7	139.8	148.9
92.5°	30.7	40.4	50.0	59.7	69.3	80.8	93.8	107.0	120.2	133.4	142.2
95°	70.5	71.6	72.8	74.0	75.2	81.3	92.4	103.4	114.5	125.5	134.1
97.5°	130.9	143.1	155.3	167.6	179.8	178.9	164.8	150.8	136.6	122.6	129.7
100°	177.2	188.0	198.9	209.8	220.7	215.9	195.6	175.2	154.9	134.5	137.8
102.5°	230.0	238.9	247.9	256.9	265.9	273.4	279.5	285.6	291.7	297.8	264.0
105°	311.9	318.5	325.1	331.7	338.4	347.1	358.0	368.9	379.8	390.7	399.3
107.5°	389.9	394.9	399.8	404.8	409.8	417.8	428.5	439.3	450.0	460.8	468.3
110°	441.7	446.1	450.5	454.9	459.2	466.7	477.3	487.8	498.4	509.0	515.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	492.0	496.5	500.9	505.4	509.9	516.9	526.3	535.8	545.3	554.7	560.5
115°	569.4	572.5	575.5	578.5	581.6	587.2	595.5	603.7	612.0	620.2	626.5
117.5°	640.2	642.5	644.8	647.1	649.5	654.8	663.1	671.6	679.9	688.3	693.7
120°	687.3	689.0	690.6	692.3	694.0	698.5	706.0	713.4	720.9	728.3	734.1
122.5°	732.1	732.8	733.5	734.2	734.9	739.0	746.5	754.1	761.6	769.2	774.7
125°	795.1	795.7	796.3	797.0	797.6	801.0	807.2	813.4	819.5	825.7	831.4
127.5°	855.7	855.7	855.6	855.6	855.5	858.6	864.7	870.7	876.8	883.0	887.6
130°	894.0	893.9	893.9	893.8	893.8	896.2	901.1	906.0	910.9	915.8	920.8
132.5°	930.0	930.1	930.2	930.4	930.5	932.7	936.9	941.2	945.4	949.6	954.4
135°	982.8	982.6	982.4	982.1	981.9	983.2	985.9	988.7	991.4	994.1	998.8
137.5°	1030.6	1030.4	1030.3	1030.1	1029.9	1030.8	1032.7	1034.6	1036.4	1038.3	1042.7
140°	1061.9	1062.0	1062.2	1062.4	1062.6	1063.0	1063.8	1064.5	1065.1	1065.8	1070.0
142.5°	1088.9	1089.7	1090.4	1091.1	1091.9	1092.4	1092.4	1092.5	1092.6	1092.8	1096.2
145°	1131.7	1132.1	1132.5	1132.9	1133.3	1133.5	1133.5	1133.5	1133.5	1133.5	1135.3
147.5°	1165.9	1166.9	1167.9	1168.8	1169.8	1170.2	1170.0	1169.8	1169.5	1169.3	1169.7
150°	1190.7	1191.4	1192.0	1192.6	1193.2	1193.4	1193.2	1193.0	1192.7	1192.5	1192.5
152.5°	1210.6	1211.3	1211.9	1212.5	1213.2	1213.3	1213.0	1212.5	1212.1	1211.8	1212.1
155°	1239.6	1239.8	1240.0	1240.2	1240.4	1240.2	1239.6	1238.9	1238.2	1237.5	1238.5
157.5°	1264.1	1264.0	1263.9	1263.8	1263.6	1263.2	1262.4	1261.7	1260.9	1260.2	1261.3
160°	1278.6	1277.9	1277.2	1276.6	1275.9	1275.5	1275.2	1275.0	1274.8	1274.5	1275.9
162.5°	1291.3	1290.6	1289.7	1288.8	1288.0	1287.5	1287.2	1287.0	1286.8	1286.6	1287.9
165°	1307.6	1306.5	1305.4	1304.2	1303.1	1302.6	1302.6	1302.6	1302.6	1302.6	1304.3
167.5°	1320.3	1319.2	1318.1	1316.9	1315.8	1315.1	1315.0	1314.8	1314.7	1314.6	1316.6
170°	1327.6	1326.3	1324.9	1323.6	1322.2	1321.7	1321.9	1322.2	1322.3	1322.6	1324.4
172.5°	1332.4	1331.0	1329.7	1328.4	1327.1	1326.5	1326.7	1327.0	1327.1	1327.4	1329.1
175°	1337.6	1336.3	1334.9	1333.6	1332.2	1331.7	1331.9	1332.1	1332.4	1332.6	1334.6
177.5°	1340.0	1338.8	1337.5	1336.3	1335.0	1334.6	1334.9	1335.2	1335.7	1336.0	1337.4
180°	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6



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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°	156.2	164.2	172.1	177.3	179.7	182.1	184.5	186.9
90°	157.9	166.9	175.9	181.7	184.3	186.8	189.3	191.9
92.5°	150.9	159.7	168.5	174.0	176.2	178.4	180.6	182.9
95°	142.5	151.0	159.5	165.1	167.6	170.2	172.8	175.5
97.5°	136.7	143.8	150.8	155.7	158.2	160.7	163.2	165.7
100°	141.2	144.6	147.9	150.7	152.7	154.8	156.9	158.9
102.5°	230.1	196.3	162.5	146.5	148.7	150.8	152.9	155.0
105°	407.9	416.6	425.2	426.5	420.6	414.7	408.9	402.9
107.5°	475.8	483.3	490.8	495.9	498.6	501.4	504.1	506.9
110°	522.1	528.7	535.2	539.8	542.6	545.4	548.2	551.0



TEST NUMBER: P332664-935

CATALOG NUMBER: S124DIP-S1020D1205U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	566.3	572.0	577.8	582.2	585.1	588.1	591.1	594.1
115°	632.7	639.0	645.2	649.3	651.2	653.0	654.9	656.7
117.5°	699.1	704.6	710.0	713.7	715.7	717.7	719.7	721.8
120°	739.9	745.5	751.3	755.0	756.6	758.4	760.0	761.6
122.5°	780.3	785.9	791.4	795.0	796.4	797.9	799.4	800.8
125°	837.1	842.7	848.4	852.2	854.0	855.8	857.6	859.5
127.5°	892.3	896.8	901.5	904.6	906.2	907.8	909.5	911.1
130°	925.8	930.7	935.7	939.0	940.6	942.2	943.8	945.4
132.5°	959.2	964.0	968.7	971.8	973.2	974.7	976.0	977.4
135°	1003.5	1008.1	1012.9	1016.2	1018.2	1020.3	1022.3	1024.3
137.5°	1047.0	1051.4	1055.7	1058.4	1059.6	1060.8	1062.0	1063.2
140°	1074.1	1078.1	1082.3	1085.1	1086.7	1088.2	1089.8	1091.3
142.5°	1099.8	1103.3	1106.8	1109.1	1110.3	1111.4	1112.6	1113.7
145°	1137.1	1138.9	1140.7	1142.4	1143.9	1145.4	1146.9	1148.4
147.5°	1170.1	1170.4	1170.9	1171.6	1172.7	1173.7	1174.8	1175.9
150°	1192.5	1192.5	1192.5	1192.7	1192.8	1193.1	1193.3	1193.5
152.5°	1212.5	1212.8	1213.1	1213.2	1213.1	1213.0	1212.9	1212.7
155°	1239.3	1240.2	1241.1	1241.2	1240.5	1239.8	1239.2	1238.5
157.5°	1262.5	1263.6	1264.8	1264.8	1263.6	1262.5	1261.3	1260.2
160°	1277.2	1278.6	1279.9	1279.9	1278.6	1277.2	1275.9	1274.5
162.5°	1289.3	1290.6	1291.9	1291.8	1290.3	1288.8	1287.3	1285.7
165°	1306.1	1307.9	1309.7	1309.6	1307.6	1305.5	1303.6	1301.6
167.5°	1318.5	1320.4	1322.4	1322.2	1320.1	1317.8	1315.6	1313.4
170°	1326.1	1327.9	1329.7	1329.5	1327.2	1325.0	1322.8	1320.6
172.5°	1330.9	1332.7	1334.5	1334.2	1331.8	1329.4	1327.0	1324.6
175°	1336.6	1338.6	1340.6	1340.2	1337.6	1334.9	1332.2	1329.6
177.5°	1338.9	1340.2	1341.7	1341.4	1339.2	1337.0	1334.9	1332.8
180°	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6	1337.6

(END OF REPORT)