

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: P332201-930

Luminaire Tested: **S123DIW-S1000D1320U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332201-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1320U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7156.7 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

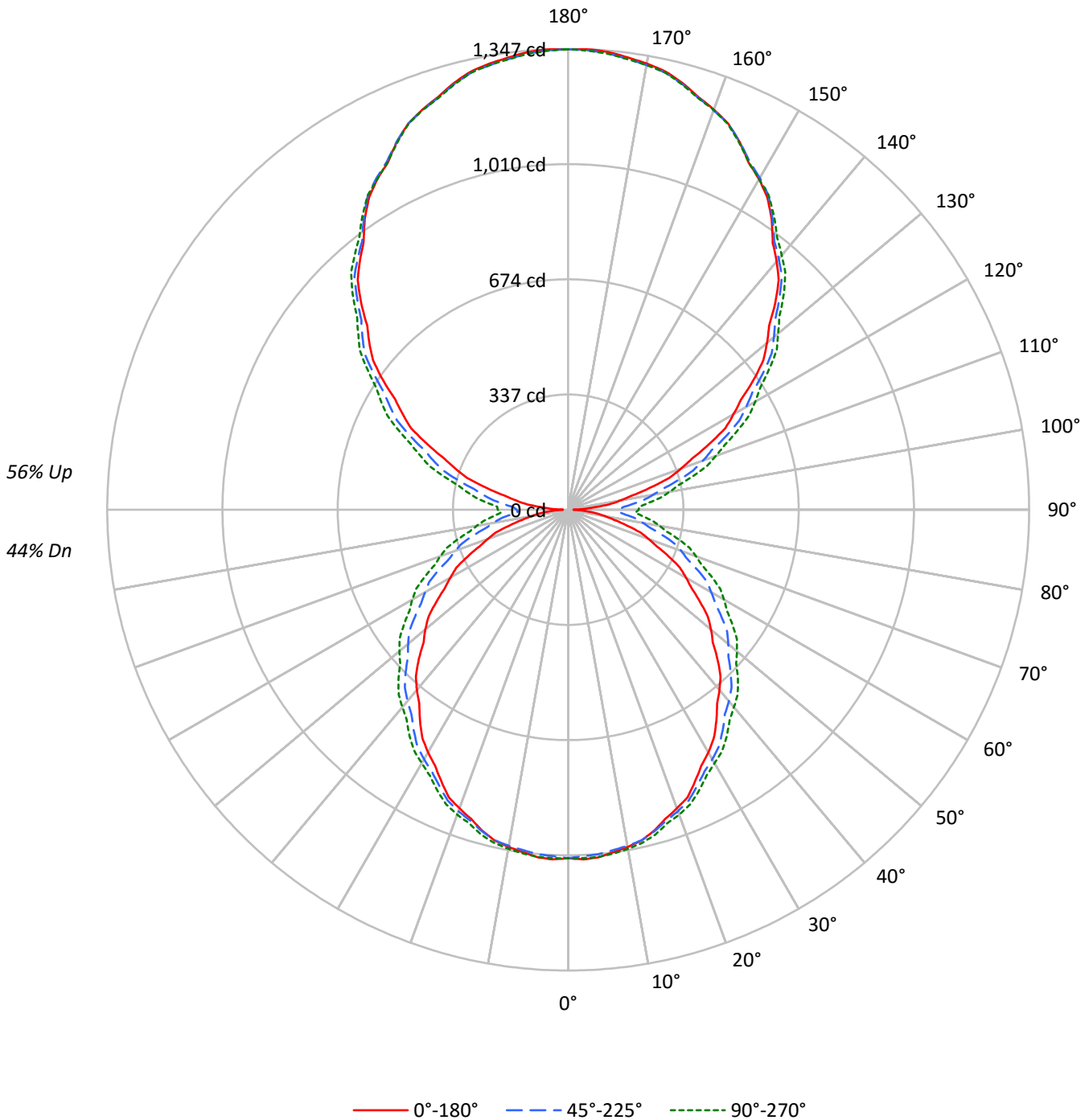
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	97	97	97	97	80	80	80	65	65	65	50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52	48	45	43	37	35	34	29
3	79	69	61	55	72	63	56	51	52	47	43	42	39	36	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	1.3
10°-20°	275.3	3.8
20°-30°	411.7	5.8
30°-40°	491.7	6.9
40°-50°	514.4	7.2
50°-60°	482.8	6.7
60°-70°	403.2	5.6
70°-80°	288.5	4.0
80°-90°	176.0	2.5
90°-100°	195.6	2.7
100°-110°	341.8	4.8
110°-120°	499.4	7.0
120°-130°	617.5	8.6
130°-140°	673.6	9.4
140°-150°	651.7	9.1
150°-160°	546.2	7.6
160°-170°	363.6	5.1
170°-180°	127.3	1.8
0°-30°	783.6	10.9
0°-40°	1275.2	17.8
0°-60°	2272.4	31.8
0°-90°	3140.1	43.9
90°-120°	1036.8	14.5
90°-150°	2979.5	41.6
90°-180°	4017.0	56.1
0°-180°	7156.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	16	81	151	191	206	14
95°	75	126	188	225	238	80
105°	247	277	333	363	376	264
115°	455	473	509	536	545	450
125°	661	666	694	712	717	590
135°	856	861	872	887	891	659
145°	1036	1037	1040	1048	1049	647
155°	1185	1185	1186	1190	1183	545
165°	1291	1288	1288	1294	1287	364
175°	1343	1339	1339	1344	1338	128
180°	1346	1346	1346	1346	1346	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.8	42.5	55.2	68.0	80.7	93.7	106.9	120.1	133.2	146.4	155.0
90°	15.5	29.9	44.4	58.8	73.2	88.2	103.9	119.5	135.2	150.7	160.1
92.5°	39.1	51.6	64.1	76.6	89.1	102.4	116.5	130.7	144.8	158.9	167.9
95°	74.6	85.9	97.1	108.4	119.6	132.2	146.2	160.2	174.1	188.1	196.7
97.5°	121.7	131.6	141.5	151.4	161.3	172.7	185.6	198.5	211.4	224.3	232.8
100°	153.8	163.1	172.4	181.7	191.0	201.9	214.4	227.0	239.5	252.0	259.8
102.5°	190.9	198.9	206.8	214.8	222.7	233.1	245.8	258.4	271.2	283.9	291.6
105°	246.8	253.2	259.6	266.0	272.3	281.9	294.6	307.4	320.1	332.8	339.7
107.5°	310.6	315.9	321.2	326.5	331.8	340.0	350.9	361.7	372.7	383.6	390.9
110°	350.3	355.2	360.1	365.0	370.0	377.6	387.9	398.3	408.5	418.9	426.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	392.6	396.6	400.5	404.4	408.4	415.1	424.7	434.2	443.8	453.3	460.7
115°	454.9	458.6	462.3	465.9	469.6	475.6	484.0	492.4	500.8	509.2	515.4
117.5°	518.6	520.9	523.2	525.5	527.7	532.8	540.5	548.2	556.0	563.7	569.5
120°	557.5	560.1	562.7	565.4	568.0	572.8	579.8	586.8	593.7	600.7	606.1
122.5°	598.9	600.6	602.3	604.0	605.6	610.0	617.2	624.3	631.4	638.5	643.4
125°	661.0	661.8	662.4	663.2	663.9	667.6	674.3	680.9	687.6	694.3	698.5
127.5°	719.4	720.6	721.9	723.2	724.5	727.7	733.2	738.6	744.0	749.3	752.9
130°	758.3	759.9	761.6	763.2	764.8	767.8	772.0	776.2	780.5	784.7	788.5
132.5°	796.4	798.2	800.1	801.8	803.6	806.3	809.8	813.2	816.6	820.0	823.4
135°	855.6	856.7	857.9	859.1	860.2	862.0	864.5	867.0	869.4	872.0	875.5
137.5°	910.4	911.3	912.3	913.3	914.2	915.8	917.9	920.1	922.2	924.4	927.2
140°	947.5	948.7	949.8	951.0	952.2	953.2	954.2	955.2	956.2	957.2	960.7
142.5°	982.2	983.2	984.1	985.1	986.1	986.8	987.4	988.0	988.6	989.1	992.2
145°	1036.3	1036.6	1036.7	1037.0	1037.2	1037.7	1038.4	1039.1	1039.8	1040.5	1042.3
147.5°	1082.6	1083.5	1084.3	1085.2	1086.0	1086.7	1087.4	1088.0	1088.7	1089.3	1090.0
150°	1115.6	1116.1	1116.6	1117.0	1117.4	1117.9	1118.4	1118.8	1119.3	1119.8	1119.8
152.5°	1142.6	1143.3	1143.9	1144.6	1145.3	1145.7	1146.1	1146.3	1146.6	1146.9	1147.3
155°	1185.4	1185.4	1185.4	1185.4	1185.4	1185.5	1185.7	1185.9	1186.2	1186.4	1187.4
157.5°	1221.7	1221.5	1221.2	1220.9	1220.6	1220.6	1220.7	1220.9	1221.2	1221.3	1222.3
160°	1244.6	1244.1	1243.7	1243.2	1242.7	1242.4	1242.4	1242.4	1242.4	1242.4	1243.7
162.5°	1264.9	1264.2	1263.6	1262.9	1262.2	1262.0	1262.2	1262.4	1262.6	1262.7	1264.0
165°	1291.1	1290.4	1289.7	1289.0	1288.3	1287.9	1287.9	1287.9	1287.9	1287.9	1289.3
167.5°	1312.1	1311.1	1310.2	1309.2	1308.3	1307.9	1308.1	1308.3	1308.5	1308.6	1310.1
170°	1323.9	1323.0	1322.0	1321.1	1320.1	1319.6	1319.6	1319.6	1319.6	1319.6	1321.3
172.5°	1333.2	1332.3	1331.3	1330.4	1329.4	1328.9	1328.9	1328.9	1328.9	1328.9	1330.4
175°	1343.0	1342.0	1341.1	1340.1	1339.1	1338.7	1338.7	1338.7	1338.7	1338.7	1340.1
177.5°	1347.0	1346.2	1345.4	1344.7	1343.9	1343.5	1343.5	1343.5	1343.5	1343.5	1344.7
180°	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	163.5	172.2	180.8	186.3	188.8	191.4	194.0	196.6
90°	169.4	178.7	188.1	194.2	197.1	200.1	203.0	205.9
92.5°	176.8	185.7	194.6	200.1	202.1	204.1	206.1	208.1
95°	205.3	213.9	222.4	228.0	230.4	232.9	235.4	237.8
97.5°	241.2	249.6	258.0	263.4	265.8	268.2	270.5	272.9
100°	267.7	275.6	283.4	288.8	291.7	294.6	297.6	300.5
102.5°	299.2	306.9	314.5	319.5	321.9	324.2	326.6	329.1
105°	346.6	353.5	360.4	365.2	367.9	370.6	373.2	375.9
107.5°	398.3	405.7	413.0	417.7	419.6	421.4	423.3	425.2
110°	433.6	441.0	448.3	452.7	454.3	455.8	457.2	458.8



TEST NUMBER: P332201-930

CATALOG NUMBER: S123DIW-S1000D1320U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	468.1	475.4	482.7	487.4	489.5	491.5	493.7	495.7
115°	521.5	527.7	533.9	537.9	539.6	541.3	543.1	544.8
117.5°	575.4	581.1	586.9	590.5	591.7	593.0	594.3	595.6
120°	611.6	617.0	622.5	625.8	627.0	628.3	629.6	630.8
122.5°	648.2	653.1	658.0	661.0	662.0	663.1	664.1	665.3
125°	702.8	707.0	711.3	713.7	714.5	715.3	716.1	716.9
127.5°	756.5	760.1	763.6	765.7	766.3	767.0	767.5	768.1
130°	792.2	796.0	799.6	801.4	801.3	801.1	801.0	800.8
132.5°	826.7	830.1	833.5	835.4	835.8	836.2	836.6	837.0
135°	879.0	882.5	885.9	888.1	888.8	889.6	890.4	891.1
137.5°	930.2	933.1	936.0	937.6	937.9	938.3	938.7	939.0
140°	964.1	967.6	971.0	972.6	972.2	971.8	971.3	970.9
142.5°	995.3	998.3	1001.4	1003.0	1002.9	1002.9	1002.8	1002.8
145°	1044.0	1045.7	1047.5	1048.3	1048.4	1048.5	1048.5	1048.6
147.5°	1090.5	1091.1	1091.7	1091.8	1091.3	1090.7	1090.2	1089.6
150°	1119.8	1119.8	1119.8	1119.3	1118.4	1117.5	1116.6	1115.7
152.5°	1147.6	1148.0	1148.3	1148.0	1146.9	1145.7	1144.7	1143.5
155°	1188.3	1189.3	1190.2	1189.8	1188.2	1186.6	1184.9	1183.2
157.5°	1223.3	1224.3	1225.3	1225.1	1223.8	1222.5	1221.2	1219.9
160°	1244.8	1246.0	1247.2	1247.3	1246.3	1245.5	1244.5	1243.5
162.5°	1265.1	1266.3	1267.5	1267.3	1265.8	1264.3	1262.8	1261.3
165°	1290.8	1292.2	1293.6	1293.5	1291.8	1290.2	1288.5	1286.9
167.5°	1311.6	1313.0	1314.5	1314.5	1313.0	1311.6	1310.1	1308.6
170°	1323.0	1324.6	1326.2	1326.2	1324.6	1323.0	1321.3	1319.6
172.5°	1331.9	1333.3	1334.8	1334.7	1333.1	1331.4	1329.8	1328.1
175°	1341.5	1343.0	1344.3	1344.2	1342.6	1340.9	1339.3	1337.7
177.5°	1345.8	1347.0	1348.1	1348.0	1346.6	1345.3	1344.0	1342.7
180°	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1	1346.1

(END OF REPORT)