

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: P332825-927

Luminaire Tested: **S124DIW-S1020D1340U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332825-927
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-S1020D1340U927-4F0-1E-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: 7587.6 lumens
Efficiency: N/A
Efficacy: 108.7 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

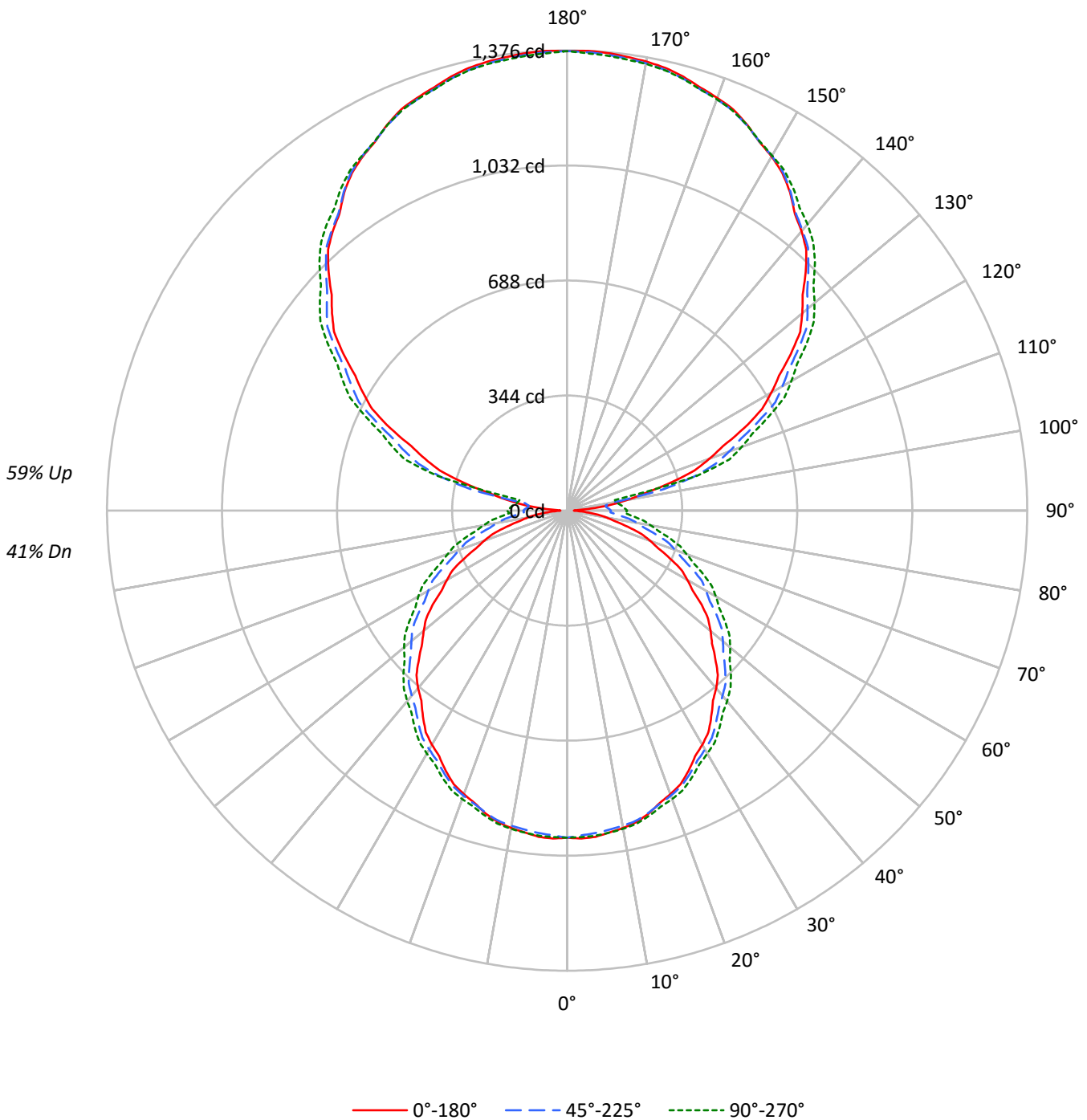
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332825-927

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Luminous Intensity Polar Plot





TEST NUMBER: P332825-927

CATALOG NUMBER: S124DIW-S1020D1340U927-4F0-1E-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°	7896	7896	7896
5°	7920	7717	7739
10°	7872	7591	7585
15°	7802	7444	7404
20°	7695	7284	7227
25°	7575	7102	7034
30°	7445	6922	6835
35°	7299	6739	6660
40°	7181	6564	6478
45°	7007	6402	6322
50°	6859	6215	6158
55°	6707	6040	5964
60°	6469	5816	5788
65°	6208	5578	5571
70°	5894	5303	5319
75°	5453	5001	5089
80°	4964	4711	4865
85°	4347	4456	4735



TEST NUMBER: P332825-927

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	1.2
10°-20°	265.4	3.5
20°-30°	401.3	5.3
30°-40°	485.5	6.4
40°-50°	513.3	6.8
50°-60°	483.1	6.4
60°-70°	400.8	5.3
70°-80°	281.5	3.7
80°-90°	163.1	2.1
90°-100°	141.5	1.9
100°-110°	369.5	4.9
110°-120°	620.0	8.2
120°-130°	754.0	9.9
130°-140°	789.8	10.4
140°-150°	730.2	9.6
150°-160°	587.0	7.7
160°-170°	378.6	5.0
170°-180°	130.5	1.7
0°-30°	759.3	10.0
0°-40°	1244.8	16.4
0°-60°	2241.1	29.5
0°-90°	3086.5	40.7
90°-120°	1131.1	14.9
90°-150°	3405.1	44.9
90°-180°	4501.0	59.3
0°-180°	7587.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	979	976	968	976	976	93
15°	939	940	936	946	945	264
25°	859	865	868	880	882	395
35°	751	764	776	790	794	470
45°	626	647	668	686	692	484
55°	491	514	546	568	575	437
65°	340	375	412	438	448	336
75°	188	229	275	304	315	200
85°	58	104	153	185	197	62
90°	21	76	131	168	180	14
95°	71	74	118	152	164	84
105°	319	348	393	426	401	335
115°	584	598	631	656	665	575
125°	816	820	844	867	876	729
135°	1009	1009	1020	1039	1048	778
145°	1162	1164	1164	1172	1178	726
155°	1273	1274	1271	1275	1272	587
165°	1343	1338	1338	1345	1337	379
175°	1374	1368	1369	1377	1366	131
180°	1374	1374	1374	1374	1374	



TEST NUMBER: P332825-927

CATALOG NUMBER: S124DIW-S1020D1340U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	981.6	981.0	980.4	979.9	979.2	978.2	976.6	975.1	973.5	971.9	973.3
5°	979.1	978.4	977.7	977.0	976.3	975.0	973.4	971.6	969.9	968.2	970.2
7.5°	970.8	970.4	969.9	969.6	969.1	968.2	966.8	965.4	963.9	962.5	964.7
10°	963.8	963.6	963.4	963.1	962.9	962.1	960.9	959.7	958.5	957.3	959.5
12.5°	954.2	954.2	954.1	954.0	954.0	953.5	952.8	951.9	951.1	950.2	952.3
15°	938.7	938.9	939.1	939.4	939.6	939.4	938.7	937.9	937.2	936.4	938.7
17.5°	917.4	918.1	918.9	919.6	920.4	920.6	920.4	920.4	920.2	920.0	922.3
20°	902.5	903.2	904.0	904.7	905.5	905.9	906.2	906.4	906.7	906.9	909.3
22.5°	885.8	886.8	887.7	888.7	889.5	890.3	890.7	891.1	891.5	892.0	894.5
25°	858.7	860.2	861.6	863.1	864.5	865.6	866.3	867.1	867.8	868.5	871.2
27.5°	828.5	830.6	832.7	834.9	837.0	838.7	839.8	840.9	842.0	843.1	845.7
30°	808.3	810.2	812.2	814.1	816.1	817.9	819.6	821.3	823.0	824.7	827.4
32.5°	786.4	788.8	791.1	793.4	795.7	797.9	799.8	801.7	803.6	805.5	808.5
35°	751.4	754.3	757.2	760.1	763.0	765.7	768.2	770.6	773.0	775.5	778.9
37.5°	716.1	719.5	722.8	726.2	729.5	732.7	735.7	738.7	741.8	744.8	748.2
40°	693.3	696.5	699.7	702.8	706.0	709.2	712.6	716.1	719.5	722.9	726.5
42.5°	667.0	670.6	674.1	677.7	681.2	685.0	689.0	693.0	697.0	701.0	705.0
45°	626.5	631.1	635.7	640.4	645.0	649.6	654.3	658.9	663.5	668.1	672.2
47.5°	587.7	592.5	597.2	602.1	606.8	611.9	617.2	622.6	628.0	633.3	637.5
50°	559.7	565.1	570.4	575.8	581.1	586.5	591.8	597.1	602.5	607.8	612.8
52.5°	531.6	537.0	542.3	547.7	553.1	558.8	564.9	571.1	577.2	583.4	588.2
55°	490.7	495.8	500.9	506.0	511.1	517.3	524.7	532.0	539.2	546.5	551.4
57.5°	444.9	451.2	457.6	463.9	470.2	477.0	484.3	491.5	498.8	506.0	511.8
60°	415.1	421.4	427.8	434.1	440.5	447.6	455.7	463.7	471.7	479.7	485.3
62.5°	386.2	393.1	400.1	406.9	413.8	421.3	429.4	437.4	445.4	453.4	459.1
65°	339.5	347.3	355.1	362.9	370.7	378.7	387.0	395.3	403.5	411.9	417.9
67.5°	294.6	302.9	311.2	319.5	327.7	336.3	345.2	354.0	362.9	371.8	378.0
70°	264.0	272.3	280.5	288.8	297.1	305.9	315.1	324.3	333.6	342.9	349.4
72.5°	234.2	242.6	251.1	259.6	268.1	277.2	287.0	296.8	306.7	316.6	322.9
75°	188.4	197.4	206.4	215.4	224.4	234.0	244.2	254.4	264.7	274.9	281.7
77.5°	145.7	155.2	164.8	174.3	183.9	193.9	204.7	215.4	226.1	236.8	243.7
80°	119.4	129.1	138.9	148.6	158.4	168.6	179.3	190.0	200.7	211.4	218.7
82.5°	93.1	103.2	113.4	123.5	133.6	144.0	154.7	165.4	176.2	186.9	194.3
85°	58.1	68.3	78.5	88.7	98.9	109.6	120.5	131.4	142.4	153.4	160.7
87.5°	33.0	43.5	53.9	64.3	74.8	85.5	96.5	107.6	118.6	129.6	137.0
90°	20.6	32.9	45.1	57.4	69.6	81.8	94.2	106.5	118.7	131.0	139.5
92.5°	29.6	38.5	47.4	56.3	65.2	75.8	88.1	100.4	112.6	124.9	133.2
95°	70.7	71.1	71.3	71.5	71.9	77.1	87.3	97.5	107.7	117.9	125.8
97.5°	132.9	144.7	156.5	168.2	180.0	178.0	162.4	146.8	131.2	115.7	122.2
100°	180.5	191.0	201.5	211.9	222.3	216.5	194.5	172.5	150.4	128.4	131.1
102.5°	234.8	243.4	251.9	260.5	269.1	275.9	281.1	286.3	291.5	296.7	261.2
105°	319.2	325.3	331.6	337.9	344.1	352.3	362.4	372.6	382.7	392.8	401.0
107.5°	399.3	403.9	408.6	413.3	418.0	425.3	435.4	445.5	455.6	465.6	472.6
110°	452.7	456.8	460.8	464.9	469.1	476.0	485.9	495.7	505.6	515.6	521.7



TEST NUMBER: P332825-927

CATALOG NUMBER: S124DIW-S1020D1340U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	504.4	508.7	512.9	517.1	521.4	527.9	536.6	545.4	554.2	563.0	568.3
115°	584.0	586.9	589.8	592.6	595.6	600.7	608.3	615.8	623.4	631.0	636.8
117.5°	656.8	659.0	661.2	663.5	665.7	670.7	678.4	686.2	694.0	701.7	706.6
120°	705.2	706.9	708.5	710.1	711.8	716.1	722.9	729.7	736.5	743.3	748.7
122.5°	751.2	751.9	752.7	753.3	754.0	757.9	764.9	771.8	778.8	785.8	790.9
125°	816.1	816.8	817.5	818.1	818.8	822.0	827.6	833.2	838.8	844.5	849.8
127.5°	878.4	878.4	878.4	878.3	878.3	881.1	886.8	892.6	898.3	904.0	908.3
130°	917.7	917.7	917.7	917.7	917.7	920.0	924.6	929.2	933.7	938.3	942.9
132.5°	954.7	954.9	955.1	955.3	955.5	957.5	961.5	965.4	969.5	973.4	977.9
135°	1009.2	1008.9	1008.7	1008.4	1008.2	1009.4	1012.0	1014.6	1017.2	1019.9	1024.2
137.5°	1058.3	1058.1	1058.0	1057.8	1057.6	1058.5	1060.3	1062.2	1064.0	1065.8	1069.8
140°	1090.3	1090.5	1090.8	1091.0	1091.2	1091.6	1092.3	1093.1	1093.8	1094.4	1098.3
142.5°	1118.2	1119.0	1119.7	1120.5	1121.3	1121.7	1121.9	1122.0	1122.1	1122.3	1125.5
145°	1162.2	1162.6	1163.1	1163.5	1164.0	1164.2	1164.2	1164.2	1164.2	1164.2	1165.9
147.5°	1197.3	1198.3	1199.4	1200.4	1201.4	1201.9	1201.7	1201.4	1201.2	1200.9	1201.3
150°	1222.8	1223.4	1224.2	1224.8	1225.5	1225.7	1225.5	1225.3	1225.0	1224.8	1224.8
152.5°	1243.3	1244.0	1244.7	1245.3	1246.0	1246.2	1245.8	1245.3	1244.9	1244.5	1244.9
155°	1273.1	1273.3	1273.5	1273.7	1274.0	1273.7	1273.1	1272.4	1271.7	1271.1	1271.9
157.5°	1298.4	1298.2	1298.1	1297.9	1297.8	1297.4	1296.6	1295.8	1295.1	1294.3	1295.5
160°	1313.1	1312.5	1311.8	1311.1	1310.4	1310.0	1309.7	1309.5	1309.2	1309.1	1310.4
162.5°	1326.3	1325.4	1324.6	1323.7	1322.9	1322.3	1322.1	1321.8	1321.6	1321.4	1322.7
165°	1343.0	1341.8	1340.7	1339.5	1338.4	1337.8	1337.8	1337.8	1337.8	1337.8	1339.7
167.5°	1356.1	1354.9	1353.8	1352.6	1351.4	1350.7	1350.6	1350.4	1350.3	1350.1	1352.2
170°	1363.5	1362.2	1360.7	1359.4	1358.0	1357.5	1357.6	1357.9	1358.1	1358.4	1360.2
172.5°	1368.4	1367.1	1365.7	1364.3	1362.9	1362.4	1362.6	1362.9	1363.0	1363.3	1365.1
175°	1373.8	1372.4	1371.0	1369.7	1368.3	1367.7	1367.9	1368.2	1368.4	1368.7	1370.7
177.5°	1376.3	1375.0	1373.6	1372.4	1371.1	1370.6	1371.0	1371.4	1371.7	1372.1	1373.6
180°	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8



TEST NUMBER: P332825-927

CATALOG NUMBER: S124DIW-S1020D1340U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	974.7	976.0	977.4	977.9	977.8	977.6	977.4	977.2
5°	972.1	974.1	976.0	976.8	976.6	976.4	976.1	975.9
7.5°	966.9	969.1	971.3	972.2	972.0	971.8	971.5	971.3
10°	961.6	963.8	966.1	967.0	966.8	966.5	966.3	966.1
12.5°	954.3	956.2	958.2	959.3	959.2	959.1	959.1	959.0
15°	940.9	943.0	945.2	946.2	945.9	945.7	945.5	945.2
17.5°	924.5	926.8	929.0	930.0	929.8	929.6	929.4	929.2
20°	911.7	914.2	916.6	917.8	917.8	917.8	917.8	917.8
22.5°	896.8	899.3	901.7	903.2	903.6	903.9	904.3	904.7
25°	873.9	876.5	879.2	880.7	881.0	881.2	881.5	881.7
27.5°	848.1	850.6	853.1	854.4	854.8	855.1	855.3	855.6
30°	830.1	832.7	835.4	837.0	837.5	838.0	838.5	839.0
32.5°	811.6	814.7	817.8	819.5	820.0	820.5	820.9	821.5
35°	782.3	785.7	789.1	791.2	791.9	792.6	793.4	794.1
37.5°	751.7	755.2	758.6	760.7	761.5	762.3	763.0	763.8
40°	730.2	733.8	737.5	739.8	740.8	741.7	742.8	743.7
42.5°	709.1	713.1	717.2	719.5	720.3	721.1	721.9	722.6
45°	676.4	680.6	684.7	687.4	688.6	689.8	691.0	692.2
47.5°	641.8	646.1	650.5	653.3	654.7	656.2	657.7	659.2
50°	617.6	622.5	627.3	630.5	632.0	633.4	634.9	636.4
52.5°	593.1	597.9	602.9	605.9	607.4	608.9	610.4	611.8
55°	556.3	561.2	566.0	569.2	570.6	572.1	573.5	575.0
57.5°	517.6	523.4	529.2	532.7	534.1	535.5	536.9	538.2
60°	490.9	496.5	502.1	505.9	507.9	509.8	511.7	513.7
62.5°	464.6	470.2	475.9	479.6	481.6	483.5	485.4	487.4
65°	424.0	430.1	436.2	440.2	442.1	444.1	446.0	448.0
67.5°	384.1	390.3	396.5	400.5	402.4	404.3	406.2	408.1
70°	355.9	362.5	369.1	373.3	374.9	376.7	378.3	380.1
72.5°	329.3	335.6	342.1	346.2	348.1	350.0	351.9	353.8
75°	288.5	295.3	302.1	306.7	308.9	311.1	313.2	315.4
77.5°	250.6	257.5	264.4	269.1	271.4	273.8	276.1	278.5
80°	226.0	233.3	240.6	245.2	247.2	249.1	251.0	253.0
82.5°	201.8	209.4	216.8	221.7	223.8	225.9	228.1	230.2
85°	167.9	175.2	182.5	187.4	189.9	192.3	194.7	197.2
87.5°	144.3	151.6	158.9	163.7	166.0	168.2	170.4	172.6
90°	147.9	156.3	164.8	170.2	172.5	175.0	177.4	179.7
92.5°	141.4	149.6	157.9	163.0	165.1	167.1	169.1	171.2
95°	133.8	141.7	149.6	154.9	157.2	159.7	162.1	164.5
97.5°	128.7	135.1	141.6	146.1	148.5	150.8	153.0	155.3
100°	133.8	136.5	139.2	141.5	143.5	145.4	147.3	149.2
102.5°	225.7	190.2	154.7	137.9	139.8	141.8	143.8	145.7
105°	409.2	417.3	425.4	426.4	420.1	413.8	407.6	401.2
107.5°	479.6	486.6	493.6	498.4	501.1	503.7	506.3	508.9
110°	527.7	533.7	539.8	544.2	546.8	549.4	552.0	554.7



TEST NUMBER: P332825-927

CATALOG NUMBER: S124DIW-S1020D1340U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	573.6	578.9	584.2	588.3	591.1	593.9	596.8	599.5
115°	642.6	648.4	654.3	658.0	659.7	661.4	663.1	664.8
117.5°	711.6	716.6	721.6	725.0	726.8	728.7	730.6	732.4
120°	754.0	759.3	764.6	768.0	769.5	771.0	772.5	774.0
122.5°	796.1	801.2	806.4	809.6	810.9	812.2	813.5	814.8
125°	855.1	860.4	865.7	869.2	870.8	872.6	874.3	875.9
127.5°	912.5	916.8	921.0	923.9	925.3	926.9	928.3	929.8
130°	947.5	952.1	956.7	959.8	961.2	962.7	964.2	965.6
132.5°	982.2	986.7	991.1	994.0	995.2	996.5	997.8	999.0
135°	1028.6	1032.9	1037.3	1040.5	1042.4	1044.3	1046.2	1048.1
137.5°	1074.0	1078.0	1082.0	1084.6	1085.7	1086.8	1087.8	1088.9
140°	1102.2	1106.0	1109.8	1112.5	1113.9	1115.4	1116.8	1118.2
142.5°	1128.9	1132.1	1135.4	1137.6	1138.6	1139.7	1140.7	1141.9
145°	1167.5	1169.3	1170.9	1172.5	1173.9	1175.4	1176.8	1178.2
147.5°	1201.7	1202.1	1202.5	1203.2	1204.2	1205.1	1206.2	1207.2
150°	1224.8	1224.8	1224.8	1224.9	1225.1	1225.3	1225.6	1225.8
152.5°	1245.2	1245.6	1245.9	1246.1	1245.9	1245.8	1245.7	1245.5
155°	1272.9	1273.7	1274.7	1274.8	1274.1	1273.4	1272.7	1272.1
157.5°	1296.6	1297.8	1299.0	1299.0	1297.8	1296.6	1295.5	1294.3
160°	1311.8	1313.1	1314.5	1314.5	1313.1	1311.8	1310.4	1309.1
162.5°	1324.1	1325.5	1326.8	1326.7	1325.2	1323.7	1322.1	1320.6
165°	1341.5	1343.3	1345.1	1345.0	1343.0	1340.9	1338.9	1336.8
167.5°	1354.2	1356.1	1358.2	1358.0	1355.7	1353.4	1351.2	1348.9
170°	1362.0	1363.8	1365.6	1365.4	1363.2	1360.9	1358.6	1356.3
172.5°	1366.9	1368.8	1370.6	1370.3	1367.8	1365.3	1362.9	1360.4
175°	1372.8	1374.8	1376.9	1376.5	1373.8	1371.0	1368.3	1365.6
177.5°	1375.1	1376.5	1378.0	1377.6	1375.4	1373.2	1371.0	1368.8
180°	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8

(END OF REPORT)