

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: P332856-930

Luminaire Tested: **S124DIW-S1195D1340U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332856-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7760.2 lumens
Efficiency: N/A
Efficacy: 101.8 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

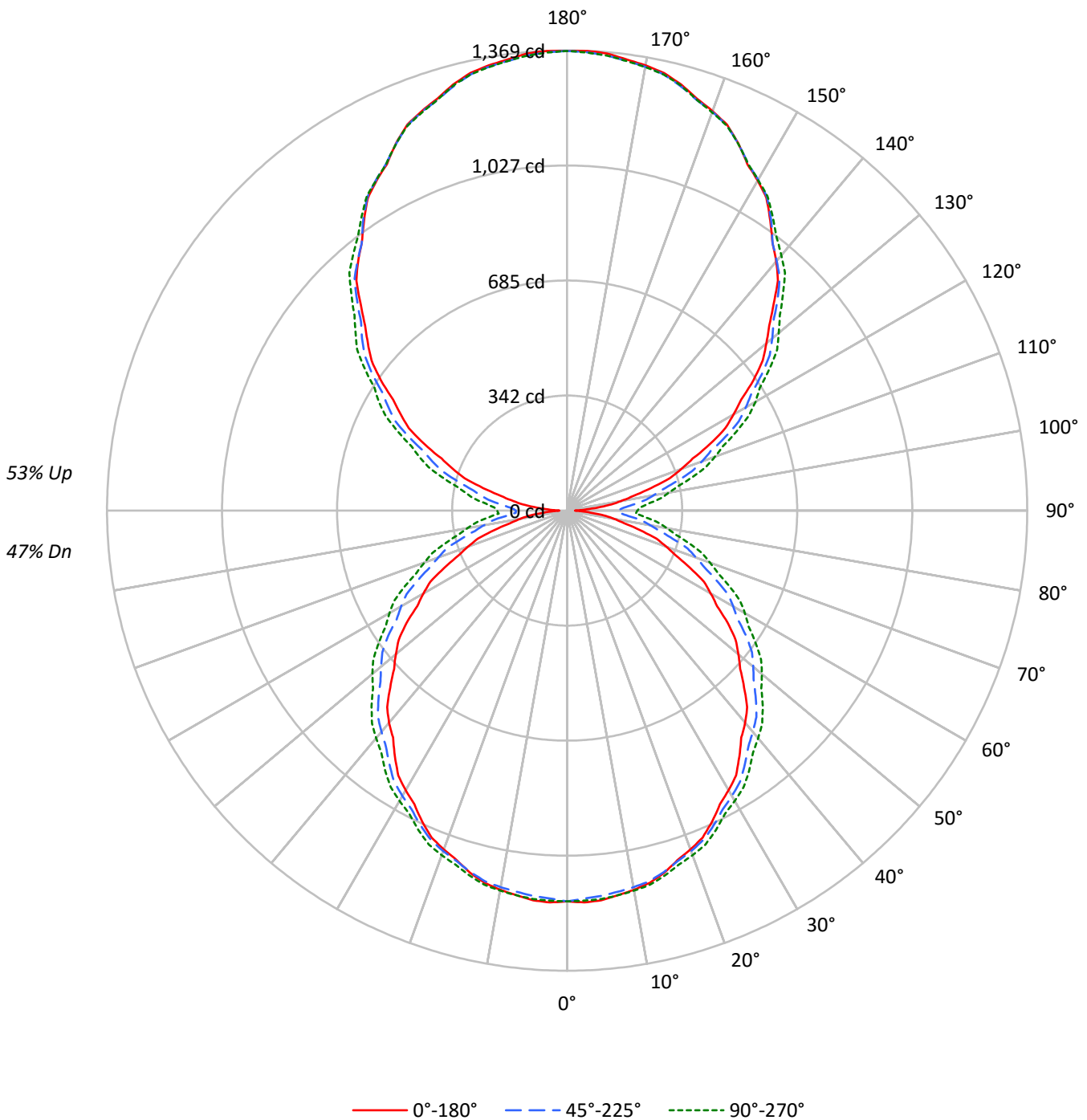
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332856-930

CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-UDD-D1

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	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	96	91	87	83	88	84	80	77	70	68	65	58	56	54	46	45	43	38
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	31	31	28	26	22
5	66	54	46	40	61	50	43	37	42	36	32	35	30	27	28	25	22	19
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	21	23	20	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	22	18	21	18	15	13
9	49	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	1.4
10°-20°	315.4	4.1
20°-30°	477.0	6.1
30°-40°	577.1	7.4
40°-50°	610.1	7.9
50°-60°	574.2	7.4
60°-70°	476.4	6.1
70°-80°	334.6	4.3
80°-90°	193.3	2.5
90°-100°	202.5	2.6
100°-110°	350.3	4.5
110°-120°	509.2	6.6
120°-130°	629.3	8.1
130°-140°	685.0	8.8
140°-150°	662.5	8.5
150°-160°	554.9	7.2
160°-170°	369.2	4.8
170°-180°	129.3	1.7
0°-30°	902.5	11.6
0°-40°	1479.6	19.1
0°-60°	2663.8	34.3
0°-90°	3668.0	47.3
90°-120°	1062.0	13.7
90°-150°	3038.8	39.2
90°-180°	4092.0	52.7
0°-180°	7760.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	24	88	152	194	209	18
95°	80	133	194	230	244	84
105°	258	287	338	372	387	275
115°	469	482	520	547	556	463
125°	677	677	707	728	735	603
135°	868	875	884	902	907	672
145°	1053	1056	1057	1064	1066	659
155°	1205	1205	1204	1208	1204	554
165°	1312	1309	1307	1313	1309	370
175°	1365	1360	1359	1365	1359	130
180°	1367	1367	1367	1367	1367	



TEST NUMBER: P332856-930

CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	39.1	51.5	63.8	76.1	88.5	101.1	114.2	127.3	140.3	153.4	162.0
90°	24.0	38.2	52.3	66.4	80.6	94.9	109.2	123.5	137.9	152.1	161.9
92.5°	42.4	55.8	69.1	82.5	95.9	109.5	123.3	137.0	150.7	164.5	173.5
95°	80.4	92.0	103.7	115.4	127.0	139.6	153.1	166.6	180.1	193.6	202.1
97.5°	126.2	136.1	146.0	155.9	165.8	177.6	191.3	205.0	218.6	232.3	240.7
100°	162.3	170.8	179.3	187.8	196.2	207.1	220.5	233.9	247.3	260.7	269.0
102.5°	201.3	208.2	215.2	222.2	229.2	239.1	252.1	265.1	278.1	291.1	299.3
105°	258.0	264.1	270.1	276.1	282.2	291.0	302.6	314.3	326.0	337.5	345.5
107.5°	320.2	325.2	330.3	335.3	340.3	348.0	358.2	368.5	378.8	389.1	396.8
110°	361.4	366.0	370.5	375.0	379.5	386.8	396.6	406.5	416.4	426.3	432.5



TEST NUMBER: P332856-930

CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	404.4	408.1	411.7	415.5	419.1	425.6	434.8	444.1	453.3	462.5	468.9
115°	468.8	471.4	474.0	476.6	479.2	484.9	493.7	502.5	511.3	520.1	526.2
117.5°	530.8	532.5	534.3	536.0	537.7	542.7	551.1	559.3	567.6	575.9	581.1
120°	571.1	572.9	574.8	576.6	578.4	583.1	590.8	598.5	606.2	613.8	618.5
122.5°	614.2	614.8	615.4	616.0	616.4	620.5	628.1	635.8	643.4	650.9	655.9
125°	676.6	676.4	676.0	675.7	675.5	678.8	685.8	692.8	699.9	706.8	711.8
127.5°	734.1	734.5	734.9	735.3	735.7	738.6	743.7	748.9	754.1	759.3	764.0
130°	773.6	774.0	774.5	774.9	775.3	777.9	782.4	787.1	791.7	796.4	801.1
132.5°	815.1	815.3	815.5	815.8	816.0	817.9	821.4	824.9	828.4	831.9	836.4
135°	868.5	870.0	871.4	872.8	874.2	876.0	877.9	880.0	882.0	884.0	888.2
137.5°	928.2	928.5	929.0	929.3	929.7	930.6	931.9	933.3	934.7	936.0	939.6
140°	967.9	968.2	968.3	968.5	968.7	968.9	969.2	969.5	969.8	970.0	973.6
142.5°	1003.3	1003.7	1004.1	1004.5	1004.9	1004.9	1004.6	1004.2	1003.9	1003.6	1006.8
145°	1053.4	1054.0	1054.7	1055.3	1056.0	1056.4	1056.6	1056.9	1057.1	1057.4	1058.8
147.5°	1103.3	1104.1	1105.0	1105.8	1106.6	1106.9	1106.8	1106.6	1106.4	1106.2	1106.3
150°	1133.8	1134.4	1135.1	1135.7	1136.4	1136.6	1136.6	1136.6	1136.6	1136.6	1136.6
152.5°	1161.5	1162.0	1162.5	1162.9	1163.4	1163.8	1164.0	1164.2	1164.4	1164.6	1165.1
155°	1205.3	1205.3	1205.3	1205.3	1205.3	1205.3	1205.0	1204.8	1204.5	1204.4	1205.3
157.5°	1242.6	1242.2	1241.8	1241.3	1240.9	1240.6	1240.6	1240.6	1240.6	1240.5	1241.2
160°	1264.6	1264.4	1264.1	1263.9	1263.6	1263.4	1263.1	1263.0	1262.7	1262.5	1263.1
162.5°	1284.9	1284.3	1283.7	1283.0	1282.5	1282.1	1281.8	1281.6	1281.3	1281.1	1282.4
165°	1312.1	1311.5	1310.8	1310.0	1309.4	1308.8	1308.3	1307.8	1307.3	1306.8	1308.3
167.5°	1333.1	1332.1	1331.1	1330.2	1329.2	1328.7	1328.8	1328.8	1328.9	1328.9	1330.3
170°	1344.9	1343.8	1342.6	1341.4	1340.3	1339.8	1340.0	1340.3	1340.5	1340.7	1342.1
172.5°	1353.4	1352.4	1351.4	1350.5	1349.5	1349.0	1349.1	1349.1	1349.2	1349.2	1350.8
175°	1365.1	1363.8	1362.7	1361.5	1360.3	1359.6	1359.4	1359.2	1358.9	1358.7	1360.3
177.5°	1368.8	1367.9	1366.9	1366.0	1365.1	1364.6	1364.6	1364.6	1364.6	1364.6	1366.0
180°	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2



TEST NUMBER: P332856-930

CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	170.6	179.4	188.0	193.6	196.3	198.9	201.6	204.2
90°	171.8	181.6	191.4	197.6	200.4	203.2	206.0	208.8
92.5°	182.5	191.5	200.6	206.4	209.0	211.5	214.1	216.7
95°	210.7	219.2	227.7	233.3	235.9	238.5	241.1	243.7
97.5°	249.2	257.6	266.0	271.4	273.9	276.4	278.9	281.4
100°	277.3	285.6	293.8	299.0	301.0	303.0	305.1	307.1
102.5°	307.5	315.8	324.0	329.3	331.7	334.2	336.6	339.1
105°	353.4	361.4	369.3	374.8	377.8	380.8	383.8	386.9
107.5°	404.6	412.4	420.1	425.0	427.1	429.1	431.1	433.2
110°	438.7	444.8	451.0	455.7	458.7	461.7	464.7	467.7



TEST NUMBER: P332856-930

CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	475.2	481.5	487.9	492.3	494.7	497.2	499.6	502.1
115°	532.3	538.5	544.6	548.5	550.3	552.1	553.9	555.7
117.5°	586.4	591.6	596.8	600.3	602.2	604.0	605.8	607.7
120°	623.1	627.7	632.3	636.0	638.8	641.6	644.3	647.1
122.5°	660.9	665.9	670.9	674.0	675.2	676.5	677.7	679.0
125°	716.9	721.9	726.9	730.1	731.3	732.6	733.9	735.2
127.5°	768.7	773.5	778.2	781.4	783.0	784.6	786.2	787.7
130°	805.8	810.6	815.3	818.1	818.9	819.7	820.4	821.3
132.5°	841.0	845.5	849.9	852.9	854.3	855.7	857.0	858.3
135°	892.3	896.5	900.7	903.3	904.3	905.3	906.4	907.3
137.5°	943.2	946.8	950.5	953.0	954.6	956.2	957.8	959.4
140°	977.1	980.6	984.1	986.5	987.7	989.0	990.2	991.4
142.5°	1010.0	1013.3	1016.5	1018.7	1019.9	1021.1	1022.2	1023.4
145°	1060.4	1061.8	1063.3	1064.3	1064.8	1065.3	1065.7	1066.2
147.5°	1106.3	1106.4	1106.4	1106.8	1107.4	1108.2	1108.8	1109.5
150°	1136.6	1136.6	1136.6	1136.5	1136.3	1136.0	1135.8	1135.6
152.5°	1165.7	1166.3	1166.9	1166.8	1166.2	1165.6	1165.0	1164.3
155°	1206.2	1207.1	1208.1	1208.1	1207.1	1206.2	1205.3	1204.4
157.5°	1241.9	1242.6	1243.3	1243.2	1242.4	1241.6	1240.9	1240.1
160°	1263.9	1264.6	1265.3	1265.0	1263.9	1262.7	1261.5	1260.4
162.5°	1283.6	1284.9	1286.1	1286.2	1285.0	1283.9	1282.7	1281.5
165°	1309.7	1311.1	1312.6	1312.8	1311.8	1310.8	1309.9	1309.0
167.5°	1331.7	1333.1	1334.5	1334.5	1333.0	1331.5	1330.2	1328.7
170°	1343.5	1344.9	1346.4	1346.2	1344.6	1343.0	1341.3	1339.7
172.5°	1352.3	1354.0	1355.6	1355.5	1353.9	1352.3	1350.6	1349.0
175°	1362.0	1363.6	1365.3	1365.3	1363.6	1362.0	1360.3	1358.7
177.5°	1367.3	1368.6	1369.9	1369.8	1368.3	1366.8	1365.3	1363.8
180°	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2

(END OF REPORT)