

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: P332862-935

Luminaire Tested: **S124DIW-S1195D1560U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332862-935
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-S1195D1560U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8847.5 lumens
Efficiency: N/A
Efficacy: 106.7 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

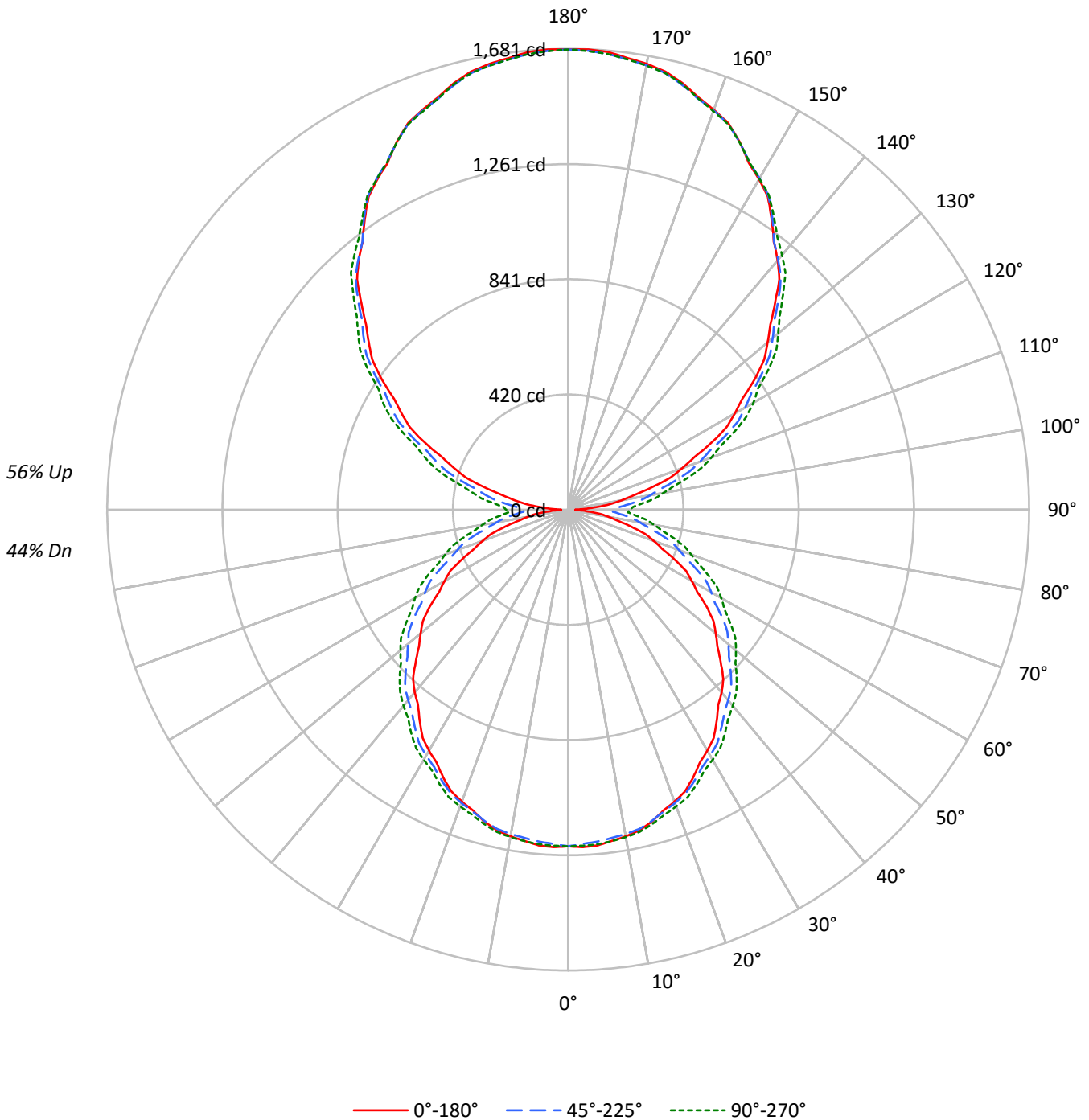
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	96	91	87	83	87	83	80	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	67	62	60	56	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	39	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	31	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	25	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	1.3
10°-20°	333.1	3.8
20°-30°	503.7	5.7
30°-40°	609.4	6.9
40°-50°	644.3	7.3
50°-60°	606.4	6.9
60°-70°	503.1	5.7
70°-80°	353.4	4.0
80°-90°	204.8	2.3
90°-100°	229.3	2.6
100°-110°	415.8	4.7
110°-120°	615.6	7.0
120°-130°	767.3	8.7
130°-140°	838.7	9.5
140°-150°	813.0	9.2
150°-160°	681.3	7.7
160°-170°	453.3	5.1
170°-180°	158.7	1.8
0°-30°	953.1	10.8
0°-40°	1562.5	17.7
0°-60°	2813.1	31.8
0°-90°	3874.3	43.8
90°-120°	1260.7	14.2
90°-150°	3679.8	41.6
90°-180°	4973.0	56.2
0°-180°	8847.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	26	95	165	210	226	19
95°	96	153	218	258	272	101
105°	315	345	400	437	453	335
115°	574	588	628	656	665	567
125°	830	830	862	884	891	740
135°	1066	1074	1083	1102	1107	825
145°	1293	1297	1298	1305	1307	809
155°	1480	1480	1479	1483	1479	681
165°	1611	1607	1605	1612	1607	454
175°	1676	1670	1668	1676	1668	159
180°	1679	1679	1679	1679	1679	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	41.5	54.6	67.7	80.8	93.8	107.4	121.2	135.0	148.9	162.7	171.9
90°	25.9	41.3	56.7	72.1	87.5	102.9	118.3	133.8	149.2	164.7	175.3
92.5°	48.6	63.3	77.9	92.6	107.2	121.9	136.6	151.4	166.2	180.9	190.5
95°	95.7	108.5	121.1	133.8	146.5	160.1	174.6	189.2	203.7	218.3	227.4
97.5°	152.3	163.1	173.7	184.5	195.3	208.0	222.8	237.6	252.4	267.2	276.2
100°	196.9	206.0	215.1	224.2	233.2	245.0	259.6	274.1	288.6	303.2	311.9
102.5°	244.7	252.1	259.5	266.9	274.4	285.1	299.1	313.1	327.2	341.2	350.1
105°	314.9	321.2	327.7	334.1	340.4	349.9	362.3	374.8	387.3	399.8	408.2
107.5°	391.2	396.6	401.9	407.3	412.6	420.7	431.6	442.5	453.3	464.2	472.5
110°	442.0	446.9	451.8	456.6	461.4	469.1	479.5	489.9	500.2	510.7	517.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	494.9	498.9	502.7	506.6	510.6	517.4	527.0	536.7	546.4	556.0	562.7
115°	574.3	577.0	579.8	582.6	585.3	591.2	600.5	609.7	618.9	628.1	634.5
117.5°	650.3	652.2	654.1	656.0	657.9	663.1	671.8	680.5	689.2	697.9	703.4
120°	700.2	702.2	704.3	706.4	708.4	713.4	721.4	729.4	737.4	745.5	750.1
122.5°	753.1	753.7	754.4	755.0	755.7	760.0	767.9	775.9	783.9	791.9	797.0
125°	829.9	829.6	829.3	829.0	828.6	832.2	839.6	846.9	854.2	861.6	866.9
127.5°	900.5	901.0	901.6	902.2	902.8	905.7	911.1	916.5	922.0	927.3	932.3
130°	949.3	949.8	950.4	950.9	951.5	954.2	959.1	964.0	968.9	973.8	978.7
132.5°	1000.1	1000.5	1000.8	1001.2	1001.4	1003.5	1007.1	1010.8	1014.5	1018.2	1022.9
135°	1066.0	1067.7	1069.4	1071.2	1073.0	1074.9	1077.0	1079.2	1081.3	1083.4	1087.7
137.5°	1139.3	1139.7	1140.2	1140.7	1141.3	1142.3	1143.8	1145.2	1146.8	1148.2	1151.9
140°	1188.0	1188.4	1188.6	1188.9	1189.1	1189.4	1189.7	1190.1	1190.3	1190.7	1194.3
142.5°	1231.6	1232.1	1232.6	1233.1	1233.6	1233.7	1233.3	1232.9	1232.5	1232.1	1235.5
145°	1293.1	1294.0	1294.9	1295.7	1296.5	1297.1	1297.4	1297.7	1298.0	1298.2	1299.8
147.5°	1354.4	1355.5	1356.6	1357.6	1358.7	1359.2	1358.9	1358.7	1358.5	1358.2	1358.2
150°	1391.8	1392.7	1393.5	1394.3	1395.2	1395.6	1395.6	1395.6	1395.6	1395.6	1395.6
152.5°	1426.0	1426.7	1427.3	1427.9	1428.6	1429.0	1429.2	1429.4	1429.7	1429.9	1430.6
155°	1480.0	1480.0	1480.0	1480.0	1480.0	1479.9	1479.5	1479.3	1479.0	1478.7	1479.9
157.5°	1525.7	1525.2	1524.7	1524.1	1523.6	1523.4	1523.3	1523.2	1523.2	1523.1	1524.0
160°	1552.7	1552.4	1552.1	1551.9	1551.5	1551.3	1551.0	1550.7	1550.4	1550.1	1551.0
162.5°	1577.6	1576.9	1576.1	1575.4	1574.6	1574.1	1573.8	1573.6	1573.2	1573.0	1574.5
165°	1611.1	1610.2	1609.4	1608.5	1607.7	1607.0	1606.4	1605.8	1605.2	1604.6	1606.4
167.5°	1636.8	1635.6	1634.4	1633.2	1632.0	1631.4	1631.5	1631.5	1631.6	1631.7	1633.4
170°	1651.4	1649.9	1648.5	1647.0	1645.6	1645.0	1645.3	1645.6	1645.9	1646.1	1647.9
172.5°	1661.7	1660.5	1659.3	1658.1	1656.9	1656.3	1656.4	1656.5	1656.5	1656.6	1658.5
175°	1676.0	1674.6	1673.2	1671.7	1670.3	1669.4	1669.1	1668.8	1668.5	1668.3	1670.3
177.5°	1680.7	1679.6	1678.4	1677.2	1676.1	1675.5	1675.5	1675.5	1675.5	1675.5	1677.1
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	181.2	190.4	199.6	205.5	208.4	211.1	214.0	216.8
90°	185.9	196.5	207.1	213.9	216.9	219.9	222.9	225.9
92.5°	200.3	209.9	219.6	225.8	228.5	231.4	234.1	236.9
95°	236.5	245.6	254.8	260.7	263.4	266.1	268.9	271.6
97.5°	285.2	294.3	303.3	309.2	311.8	314.4	317.0	319.7
100°	320.8	329.6	338.5	343.9	346.0	348.2	350.3	352.5
102.5°	358.9	367.6	376.5	382.2	384.8	387.4	390.0	392.7
105°	416.7	425.2	433.8	439.6	443.0	446.3	449.6	452.9
107.5°	480.9	489.1	497.5	502.7	504.9	507.0	509.1	511.3
110°	523.6	530.0	536.5	541.4	544.7	547.9	551.3	554.6



TEST NUMBER: P332862-935

CATALOG NUMBER: S124DIW-S1195D1560U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	569.4	576.1	582.7	587.4	590.0	592.6	595.2	597.9
115°	640.9	647.4	653.8	657.9	659.8	661.6	663.5	665.3
117.5°	708.7	714.1	719.5	723.1	725.0	726.9	728.7	730.6
120°	754.8	759.4	764.1	767.9	770.9	774.0	777.1	780.1
122.5°	802.1	807.3	812.4	815.5	816.7	817.9	819.0	820.2
125°	872.0	877.3	882.5	885.7	887.0	888.3	889.5	890.8
127.5°	937.2	942.1	947.0	950.3	951.9	953.6	955.1	956.7
130°	983.6	988.5	993.4	996.3	997.0	997.6	998.3	998.9
132.5°	1027.5	1032.3	1036.9	1039.9	1041.3	1042.7	1044.0	1045.4
135°	1092.1	1096.4	1100.7	1103.3	1104.3	1105.3	1106.2	1107.2
137.5°	1155.6	1159.4	1163.1	1165.8	1167.5	1169.2	1170.9	1172.6
140°	1198.0	1201.7	1205.4	1207.8	1209.1	1210.3	1211.6	1212.8
142.5°	1238.9	1242.3	1245.8	1248.1	1249.3	1250.5	1251.8	1253.0
145°	1301.3	1302.9	1304.4	1305.4	1305.7	1306.1	1306.5	1306.8
147.5°	1358.2	1358.2	1358.3	1358.7	1359.3	1360.0	1360.7	1361.4
150°	1395.6	1395.6	1395.6	1395.5	1395.2	1394.9	1394.6	1394.3
152.5°	1431.2	1431.9	1432.6	1432.6	1431.8	1431.2	1430.4	1429.6
155°	1481.0	1482.1	1483.3	1483.3	1482.1	1481.0	1479.9	1478.7
157.5°	1524.8	1525.7	1526.6	1526.5	1525.5	1524.6	1523.5	1522.6
160°	1551.9	1552.7	1553.6	1553.2	1551.9	1550.4	1548.9	1547.5
162.5°	1576.1	1577.6	1579.2	1579.2	1577.8	1576.4	1574.9	1573.5
165°	1608.1	1609.8	1611.5	1611.9	1610.7	1609.6	1608.3	1607.2
167.5°	1635.1	1636.8	1638.6	1638.6	1636.8	1635.0	1633.1	1631.3
170°	1649.7	1651.4	1653.1	1652.9	1651.0	1648.9	1646.9	1644.9
172.5°	1660.5	1662.4	1664.4	1664.4	1662.3	1660.4	1658.3	1656.3
175°	1672.3	1674.3	1676.4	1676.4	1674.3	1672.3	1670.3	1668.3
177.5°	1678.8	1680.3	1682.0	1681.9	1680.0	1678.2	1676.4	1674.5
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6

(END OF REPORT)