

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: P332849

Luminaire Tested: **S124DIW-S1195D1050U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332849
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-S1195D1050U835-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9055.0 lumens
Efficiency: N/A
Efficacy: 134.3 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

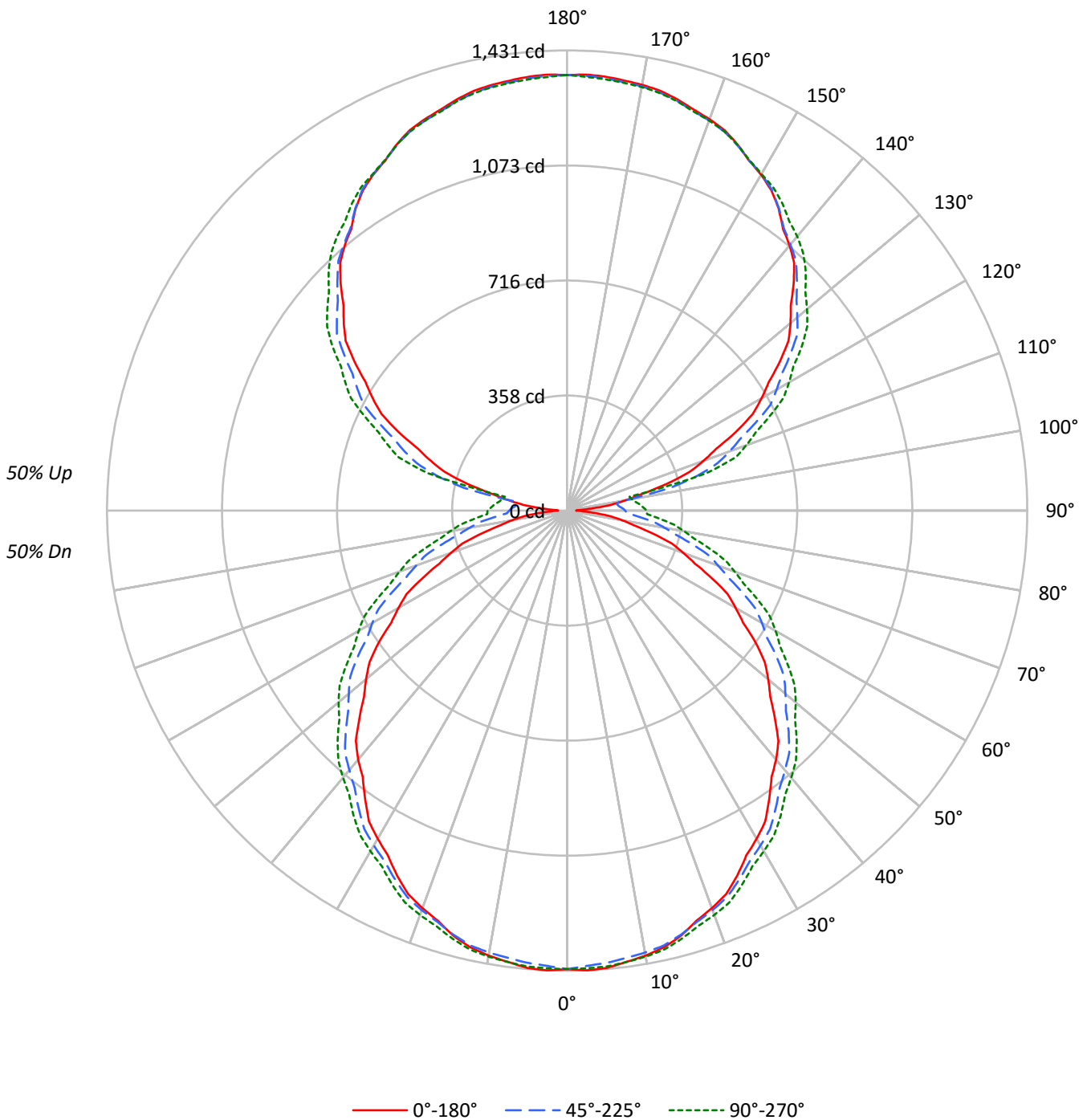
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	74	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11512	11512	11512
5°	11547	11251	11283
10°	11477	11067	11058
15°	11374	10854	10794
20°	11219	10619	10537
25°	11044	10355	10254
30°	10854	10093	9964
35°	10640	9824	9710
40°	10469	9569	9445
45°	10215	9334	9218
50°	10000	9062	8977
55°	9778	8806	8695
60°	9431	8480	8438
65°	9051	8130	8122
70°	8591	7730	7753
75°	7950	7291	7421
80°	7239	6868	7093
85°	6329	6495	6901



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.0	1.5
10°-20°	386.9	4.3
20°-30°	585.0	6.5
30°-40°	707.8	7.8
40°-50°	748.3	8.3
50°-60°	704.2	7.8
60°-70°	584.3	6.5
70°-80°	410.4	4.5
80°-90°	235.9	2.6
90°-100°	184.1	2.0
100°-110°	397.4	4.4
110°-120°	633.6	7.0
120°-130°	756.0	8.3
130°-140°	784.2	8.7
140°-150°	721.1	8.0
150°-160°	578.8	6.4
160°-170°	373.3	4.1
170°-180°	128.7	1.4
0°-30°	1106.9	12.2
0°-40°	1814.7	20.0
0°-60°	3267.3	36.1
0°-90°	4497.9	49.7
90°-120°	1215.0	13.4
90°-150°	3476.3	38.4
90°-180°	4557.0	50.3
0°-180°	9055.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1428	1422	1412	1424	1423	135
15°	1368	1370	1365	1379	1378	385
25°	1252	1261	1266	1283	1285	576
35°	1095	1114	1130	1152	1158	686
45°	913	944	974	1000	1009	706
55°	715	750	797	828	838	637
65°	495	546	600	639	653	490
75°	275	334	401	444	460	292
85°	85	152	224	270	287	90
90°	29	104	180	231	248	19
95°	76	97	161	208	226	88
105°	319	359	422	466	447	335
115°	579	598	646	682	695	570
125°	807	811	847	879	891	720
135°	996	996	1010	1037	1050	768
145°	1146	1148	1148	1158	1167	716
155°	1255	1256	1253	1257	1254	579
165°	1324	1319	1319	1326	1318	374
175°	1355	1349	1350	1358	1346	129
180°	1355	1355	1355	1355	1355	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1431.1	1430.2	1429.4	1428.5	1427.7	1426.1	1423.8	1421.6	1419.3	1417.0	1419.0
5°	1427.5	1426.5	1425.4	1424.4	1423.3	1421.5	1419.0	1416.5	1414.1	1411.6	1414.4
7.5°	1415.4	1414.8	1414.1	1413.5	1412.9	1411.5	1409.5	1407.4	1405.3	1403.3	1406.5
10°	1405.2	1404.8	1404.5	1404.1	1403.8	1402.7	1400.9	1399.2	1397.4	1395.6	1398.8
12.5°	1391.1	1391.1	1391.0	1390.9	1390.9	1390.2	1389.0	1387.8	1386.6	1385.4	1388.3
15°	1368.5	1368.8	1369.2	1369.5	1369.9	1369.5	1368.5	1367.4	1366.3	1365.3	1368.5
17.5°	1337.5	1338.6	1339.6	1340.7	1341.7	1342.2	1342.0	1341.7	1341.5	1341.3	1344.6
20°	1315.8	1316.8	1317.9	1319.0	1320.0	1320.7	1321.1	1321.5	1321.8	1322.2	1325.7
22.5°	1291.5	1292.8	1294.2	1295.5	1296.9	1297.9	1298.5	1299.2	1299.8	1300.4	1304.0
25°	1251.9	1254.0	1256.2	1258.3	1260.4	1262.0	1263.1	1264.1	1265.2	1266.3	1270.2
27.5°	1207.8	1211.0	1214.1	1217.2	1220.3	1222.7	1224.3	1226.0	1227.6	1229.2	1232.8
30°	1178.4	1181.3	1184.1	1187.0	1189.8	1192.5	1194.9	1197.4	1199.9	1202.4	1206.3
32.5°	1146.5	1149.9	1153.3	1156.7	1160.1	1163.2	1166.0	1168.8	1171.5	1174.3	1178.8
35°	1095.4	1099.7	1103.9	1108.2	1112.4	1116.3	1119.9	1123.4	1127.0	1130.5	1135.5
37.5°	1044.0	1048.9	1053.8	1058.7	1063.6	1068.2	1072.6	1077.0	1081.4	1085.8	1090.9
40°	1010.8	1015.4	1020.0	1024.6	1029.2	1034.0	1039.0	1044.0	1048.9	1053.9	1059.2
42.5°	972.5	977.6	982.8	988.0	993.2	998.7	1004.5	1010.3	1016.1	1022.0	1027.9
45°	913.4	920.1	926.9	933.6	940.3	947.1	953.8	960.6	967.3	974.1	980.1
47.5°	856.8	863.8	870.8	877.7	884.7	892.1	899.9	907.7	915.5	923.3	929.5
50°	816.0	823.8	831.6	839.4	847.2	855.0	862.8	870.6	878.4	886.2	893.3
52.5°	775.1	782.9	790.7	798.5	806.3	814.7	823.6	832.6	841.5	850.5	857.6
55°	715.4	722.8	730.3	737.7	745.2	754.2	764.9	775.5	786.2	796.8	803.9
57.5°	648.6	657.9	667.1	676.3	685.5	695.4	706.0	716.6	727.2	737.7	746.2
60°	605.2	614.4	623.6	632.9	642.1	652.6	664.3	676.0	687.7	699.4	707.6
62.5°	563.0	573.1	583.2	593.3	603.3	614.2	626.0	637.7	649.4	661.1	669.2
65°	495.0	506.4	517.7	529.1	540.4	552.1	564.2	576.3	588.3	600.4	609.3
67.5°	429.5	441.6	453.7	465.7	477.8	490.3	503.2	516.1	529.0	542.0	551.0
70°	384.8	396.9	409.0	421.0	433.1	445.9	459.3	472.8	486.3	499.8	509.4
72.5°	341.4	353.7	366.1	378.4	390.8	404.1	418.5	432.8	447.1	461.5	470.8
75°	274.7	287.8	300.9	314.0	327.2	341.2	356.1	371.0	385.9	400.8	410.7
77.5°	212.4	226.3	240.2	254.1	268.0	282.8	298.4	314.0	329.6	345.2	355.3
80°	174.1	188.2	202.4	216.6	230.8	245.7	261.3	277.0	292.6	308.2	318.8
82.5°	135.7	150.5	165.3	180.0	194.8	210.0	225.6	241.2	256.8	272.4	283.3
85°	84.6	99.5	114.4	129.3	144.2	159.7	175.6	191.6	207.6	223.6	234.2
87.5°	47.9	62.8	77.8	92.8	107.8	123.2	139.1	155.0	170.9	186.8	197.4
90°	28.6	45.3	61.9	78.6	95.3	112.1	129.2	146.3	163.3	180.4	192.0
92.5°	37.0	49.9	62.9	75.8	88.7	103.7	120.7	137.8	154.8	171.9	183.3
95°	76.5	80.5	84.6	88.6	92.7	102.1	116.9	131.7	146.4	161.2	172.1
97.5°	137.2	152.0	166.9	181.7	196.6	198.7	187.9	177.2	166.5	155.8	165.2
100°	183.7	197.0	210.3	223.6	236.8	234.9	217.6	200.4	183.2	165.9	171.7
102.5°	237.2	248.3	259.3	270.4	281.5	291.8	301.3	310.8	320.3	329.8	297.8
105°	319.3	327.8	336.2	344.7	353.1	364.5	378.7	393.0	407.2	421.5	432.4
107.5°	398.2	404.7	411.2	417.7	424.2	434.5	448.4	462.4	476.3	490.3	500.0
110°	450.5	456.1	461.8	467.4	473.0	482.7	496.5	510.3	524.1	537.8	546.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	501.1	506.7	512.3	517.9	523.5	532.6	545.1	557.5	570.0	582.5	590.3
115°	579.0	582.9	586.7	590.6	594.5	602.0	613.1	624.2	635.4	646.5	654.7
117.5°	650.6	653.4	656.2	659.1	661.9	668.8	679.9	691.0	702.0	713.1	720.4
120°	698.0	699.9	701.9	703.9	705.8	711.8	721.9	732.0	742.0	752.1	759.6
122.5°	743.3	744.1	744.9	745.6	746.4	751.8	761.8	771.8	781.9	791.9	799.3
125°	806.8	807.3	807.9	808.4	809.0	813.5	821.9	830.3	838.7	847.1	854.6
127.5°	868.1	867.9	867.8	867.7	867.6	871.4	879.3	887.1	895.0	902.8	909.1
130°	906.5	906.4	906.3	906.1	906.0	909.1	915.5	921.8	928.2	934.5	941.1
132.5°	943.0	943.0	943.1	943.1	943.2	945.9	951.3	956.7	962.1	967.5	973.8
135°	996.1	995.9	995.7	995.4	995.2	996.8	1000.2	1003.6	1006.9	1010.3	1016.5
137.5°	1044.5	1044.3	1044.0	1043.7	1043.5	1044.4	1046.6	1048.8	1051.0	1053.2	1058.9
140°	1076.1	1076.2	1076.3	1076.4	1076.5	1077.0	1077.8	1078.6	1079.4	1080.2	1085.5
142.5°	1103.2	1104.0	1104.7	1105.5	1106.2	1106.6	1106.7	1106.7	1106.8	1106.8	1111.4
145°	1146.5	1146.8	1147.1	1147.4	1147.8	1147.9	1147.9	1147.9	1147.9	1147.9	1150.3
147.5°	1181.1	1182.0	1182.9	1183.9	1184.8	1185.1	1184.9	1184.7	1184.4	1184.2	1184.7
150°	1206.3	1206.8	1207.4	1207.9	1208.4	1208.6	1208.4	1208.2	1207.9	1207.7	1207.7
152.5°	1226.1	1226.7	1227.4	1228.0	1228.7	1228.8	1228.4	1228.0	1227.6	1227.2	1227.5
155°	1255.3	1255.6	1255.8	1256.0	1256.2	1256.0	1255.3	1254.7	1254.0	1253.3	1254.2
157.5°	1280.3	1280.1	1280.0	1279.8	1279.7	1279.3	1278.5	1277.7	1277.0	1276.2	1277.4
160°	1294.8	1294.2	1293.5	1292.8	1292.1	1291.7	1291.5	1291.2	1291.0	1290.8	1292.1
162.5°	1307.8	1307.0	1306.1	1305.2	1304.4	1303.8	1303.6	1303.4	1303.2	1302.9	1304.3
165°	1324.2	1323.1	1322.0	1320.8	1319.7	1319.2	1319.2	1319.2	1319.2	1319.2	1321.0
167.5°	1337.2	1336.0	1334.9	1333.7	1332.5	1331.9	1331.7	1331.6	1331.5	1331.3	1333.3
170°	1344.5	1343.1	1341.8	1340.4	1339.1	1338.5	1338.7	1339.0	1339.2	1339.4	1341.2
172.5°	1349.3	1348.0	1346.6	1345.3	1343.9	1343.4	1343.6	1343.8	1344.1	1344.3	1346.1
175°	1354.6	1353.3	1351.9	1350.6	1349.2	1348.7	1348.9	1349.1	1349.3	1349.6	1351.6
177.5°	1357.0	1355.8	1354.5	1353.3	1352.0	1351.6	1351.9	1352.3	1352.6	1353.0	1354.4
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1421.0	1423.0	1425.0	1425.8	1425.5	1425.2	1425.0	1424.7
5°	1417.3	1420.1	1422.9	1424.2	1423.8	1423.5	1423.1	1422.8
7.5°	1409.7	1412.9	1416.1	1417.5	1417.1	1416.8	1416.4	1416.1
10°	1402.0	1405.2	1408.4	1409.8	1409.5	1409.1	1408.7	1408.4
12.5°	1391.2	1394.1	1397.0	1398.5	1398.4	1398.3	1398.2	1398.2
15°	1371.7	1374.9	1378.0	1379.5	1379.1	1378.8	1378.4	1378.0
17.5°	1347.9	1351.1	1354.4	1355.9	1355.6	1355.3	1355.0	1354.7
20°	1329.3	1332.8	1336.4	1338.1	1338.1	1338.1	1338.1	1338.1
22.5°	1307.5	1311.1	1314.6	1316.7	1317.3	1317.8	1318.4	1319.0
25°	1274.1	1278.0	1281.9	1284.0	1284.4	1284.7	1285.1	1285.4
27.5°	1236.5	1240.1	1243.7	1245.7	1246.2	1246.6	1247.0	1247.4
30°	1210.2	1214.1	1218.0	1220.3	1221.0	1221.7	1222.4	1223.2
32.5°	1183.2	1187.7	1192.2	1194.8	1195.5	1196.2	1196.9	1197.6
35°	1140.5	1145.4	1150.4	1153.4	1154.5	1155.6	1156.6	1157.7
37.5°	1095.9	1100.9	1106.0	1109.1	1110.2	1111.3	1112.5	1113.6
40°	1064.5	1069.9	1075.2	1078.6	1080.0	1081.4	1082.8	1084.2
42.5°	1033.7	1039.6	1045.5	1049.0	1050.2	1051.3	1052.4	1053.6
45°	986.1	992.2	998.2	1002.1	1003.9	1005.6	1007.4	1009.2
47.5°	935.8	942.0	948.3	952.4	954.6	956.7	958.8	961.0
50°	900.4	907.5	914.6	919.2	921.4	923.5	925.6	927.7
52.5°	864.7	871.8	878.8	883.5	885.6	887.7	889.8	892.0
55°	811.0	818.1	825.2	829.8	831.9	834.1	836.2	838.3
57.5°	754.6	763.1	771.5	776.7	778.7	780.7	782.7	784.7
60°	715.7	723.9	732.0	737.5	740.4	743.2	746.1	748.9
62.5°	677.4	685.6	693.7	699.2	702.1	704.9	707.7	710.6
65°	618.1	627.0	635.9	641.7	644.6	647.4	650.3	653.1
67.5°	560.0	569.0	578.0	583.9	586.7	589.4	592.2	595.0
70°	519.0	528.5	538.1	544.2	546.6	549.1	551.6	554.1
72.5°	480.1	489.4	498.7	504.7	507.5	510.2	513.0	515.8
75°	420.7	430.6	440.5	447.1	450.3	453.5	456.7	459.9
77.5°	365.4	375.5	385.5	392.3	395.7	399.1	402.5	405.9
80°	329.5	340.1	350.8	357.5	360.3	363.2	366.0	368.9
82.5°	294.3	305.2	316.1	323.2	326.3	329.4	332.5	335.6
85°	244.8	255.5	266.1	273.2	276.8	280.3	283.9	287.4
87.5°	207.9	218.5	229.1	235.9	239.2	242.4	245.6	248.8
90°	203.7	215.3	226.9	234.4	237.7	241.0	244.3	247.6
92.5°	194.6	206.0	217.3	224.5	227.4	230.3	233.3	236.2
95°	183.1	194.0	204.9	212.1	215.5	219.0	222.4	225.8
97.5°	174.6	184.1	193.5	199.9	203.1	206.4	209.7	213.0
100°	177.4	183.2	189.0	193.2	195.9	198.6	201.3	204.0
102.5°	265.8	233.8	201.8	187.2	190.0	192.8	195.6	198.4
105°	443.3	454.2	465.1	467.9	462.6	457.4	452.1	446.8
107.5°	509.7	519.4	529.1	535.7	539.1	542.5	545.9	549.3
110°	555.1	563.7	572.3	578.3	581.9	585.4	588.9	592.4



TEST NUMBER: P332849

CATALOG NUMBER: S124DIW-S1195D1050U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	598.1	605.9	613.7	619.4	623.1	626.8	630.5	634.2
115°	663.0	671.3	679.5	684.9	687.4	689.8	692.3	694.8
117.5°	727.7	735.0	742.3	747.3	750.0	752.8	755.5	758.3
120°	767.2	774.7	782.3	787.3	789.6	792.0	794.4	796.8
122.5°	806.6	814.0	821.4	826.1	828.2	830.3	832.4	834.5
125°	862.0	869.4	876.8	881.7	884.1	886.4	888.8	891.1
127.5°	915.3	921.6	927.8	932.1	934.3	936.5	938.8	941.0
130°	947.7	954.4	961.0	965.3	967.5	969.6	971.7	973.9
132.5°	980.2	986.5	992.8	997.0	998.9	1000.9	1002.8	1004.8
135°	1022.6	1028.7	1034.8	1039.2	1041.8	1044.3	1046.9	1049.5
137.5°	1064.6	1070.3	1075.9	1079.6	1081.2	1082.9	1084.5	1086.2
140°	1090.8	1096.1	1101.4	1105.0	1107.0	1109.0	1111.0	1113.0
142.5°	1115.9	1120.4	1125.0	1128.0	1129.6	1131.1	1132.6	1134.2
145°	1152.6	1155.0	1157.3	1159.5	1161.3	1163.2	1165.1	1166.9
147.5°	1185.1	1185.6	1186.1	1187.0	1188.3	1189.7	1191.1	1192.4
150°	1207.7	1207.7	1207.7	1207.8	1208.0	1208.3	1208.5	1208.7
152.5°	1227.9	1228.2	1228.6	1228.7	1228.6	1228.4	1228.3	1228.2
155°	1255.1	1256.0	1256.9	1257.0	1256.3	1255.7	1255.0	1254.3
157.5°	1278.5	1279.7	1280.9	1280.9	1279.7	1278.5	1277.4	1276.2
160°	1293.5	1294.8	1296.2	1296.2	1294.8	1293.5	1292.1	1290.8
162.5°	1305.6	1307.0	1308.3	1308.3	1306.7	1305.2	1303.7	1302.1
165°	1322.8	1324.6	1326.4	1326.2	1324.2	1322.2	1320.2	1318.1
167.5°	1335.3	1337.3	1339.2	1339.1	1336.9	1334.6	1332.4	1330.1
170°	1343.0	1344.8	1346.6	1346.4	1344.1	1341.9	1339.6	1337.4
172.5°	1347.9	1349.7	1351.5	1351.2	1348.7	1346.3	1343.9	1341.4
175°	1353.6	1355.6	1357.7	1357.3	1354.6	1351.9	1349.2	1346.5
177.5°	1355.9	1357.3	1358.8	1358.4	1356.2	1354.1	1351.9	1349.8
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6

(END OF REPORT)