

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: P332855

Luminaire Tested: **S124DIW-S1195D1340U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332855
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-S1195D1340U835-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 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: 10230.2 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

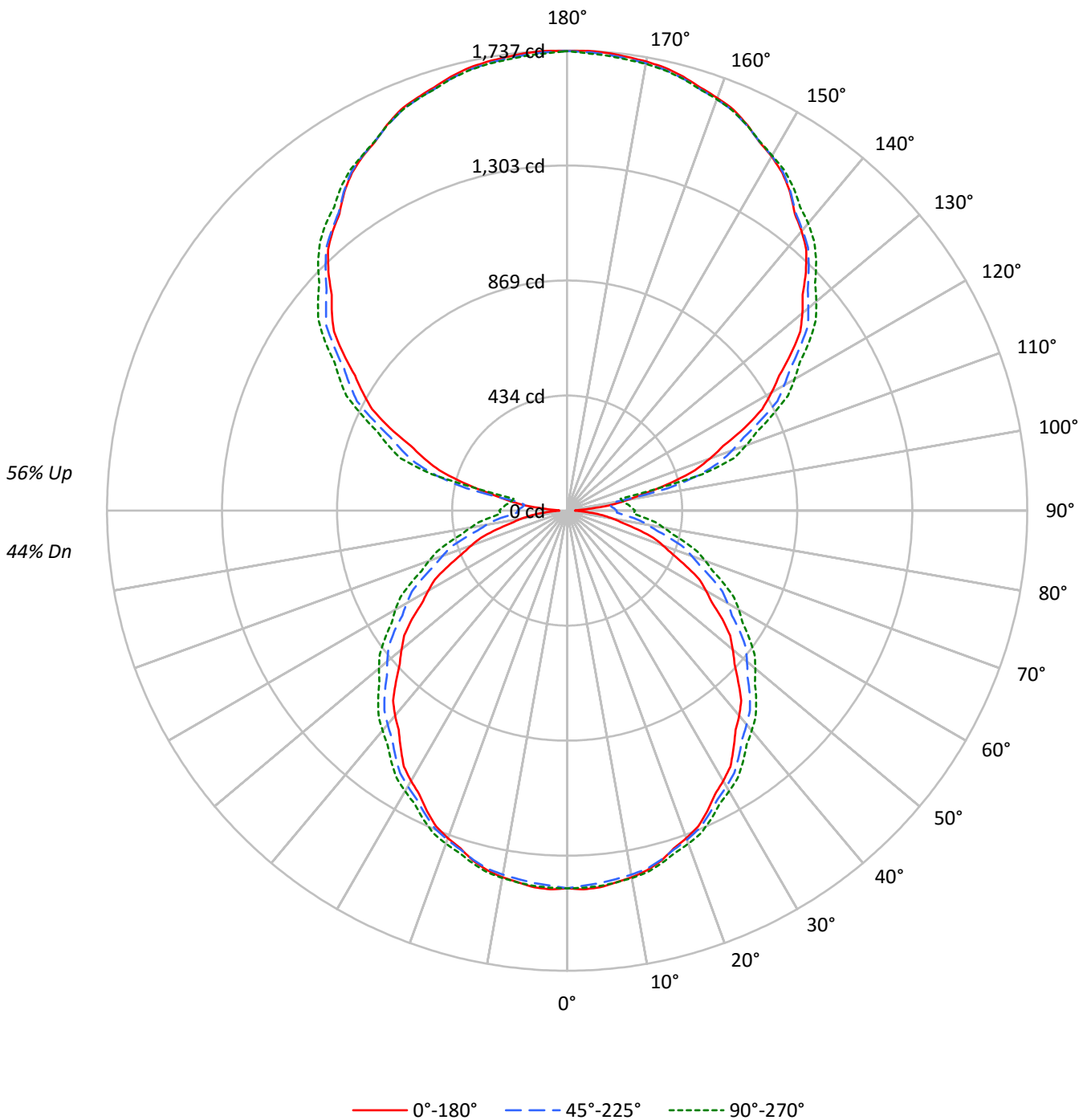
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	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	38	36	34	29				
3	79	69	61	55	72	63	57	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	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°	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	1.3
10°-20°	386.9	3.8
20°-30°	585.0	5.7
30°-40°	707.8	6.9
40°-50°	748.3	7.3
50°-60°	704.2	6.9
60°-70°	584.3	5.7
70°-80°	410.4	4.0
80°-90°	237.0	2.3
90°-100°	197.1	1.9
100°-110°	480.2	4.7
110°-120°	791.9	7.7
120°-130°	957.0	9.4
130°-140°	999.3	9.8
140°-150°	922.2	9.0
150°-160°	741.0	7.2
160°-170°	477.9	4.7
170°-180°	164.7	1.6
0°-30°	1106.9	10.8
0°-40°	1814.7	17.7
0°-60°	3267.3	31.9
0°-90°	4499.0	44.0
90°-120°	1469.1	14.4
90°-150°	4347.6	42.5
90°-180°	5731.0	56.0
0°-180°	10230.2	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	108	187	239	256	20
95°	92	104	168	216	234	108
105°	405	446	510	557	528	425
115°	738	759	807	843	856	727
125°	1031	1037	1072	1105	1117	921
135°	1274	1274	1289	1317	1330	982
145°	1467	1469	1470	1480	1489	917
155°	1607	1608	1604	1609	1606	741
165°	1695	1689	1689	1698	1688	479
175°	1734	1727	1728	1738	1724	165
180°	1734	1734	1734	1734	1734	



TEST NUMBER: P332855

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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°	48.0	63.2	78.3	93.4	108.5	124.0	140.1	156.1	172.1	188.1	198.7
90°	29.4	46.8	64.2	81.5	98.9	116.4	133.9	151.5	169.1	186.6	198.6
92.5°	40.6	53.6	66.5	79.5	92.4	107.7	125.2	142.8	160.4	177.9	189.7
95°	92.1	94.0	95.9	97.8	99.7	108.1	122.9	137.8	152.6	167.5	178.8
97.5°	170.3	186.5	202.7	218.9	235.1	234.3	216.5	198.8	181.0	163.3	172.7
100°	230.3	244.7	259.1	273.5	287.9	282.2	256.2	230.3	204.4	178.4	183.1
102.5°	298.8	310.7	322.6	334.5	346.3	356.5	364.8	373.2	381.6	389.9	346.4
105°	404.8	413.6	422.4	431.3	440.1	451.8	466.4	480.9	495.5	510.1	521.5
107.5°	505.9	512.6	519.3	525.9	532.6	543.2	557.5	571.9	586.3	600.7	610.7
110°	573.1	578.9	584.8	590.6	596.4	606.4	620.6	634.7	648.9	663.0	671.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	638.2	644.2	650.1	656.1	662.1	671.4	684.0	696.7	709.3	722.0	729.8
115°	738.5	742.6	746.6	750.7	754.8	762.3	773.4	784.5	795.5	806.6	815.0
117.5°	830.3	833.4	836.4	839.5	842.6	849.7	860.9	872.1	883.3	894.5	901.8
120°	891.3	893.5	895.7	897.9	900.1	906.3	916.3	926.3	936.3	946.3	953.9
122.5°	949.4	950.3	951.2	952.1	953.0	958.5	968.6	978.8	988.9	999.0	1006.5
125°	1031.1	1031.9	1032.7	1033.5	1034.3	1038.8	1047.1	1055.4	1063.7	1072.0	1079.6
127.5°	1109.6	1109.5	1109.5	1109.4	1109.3	1113.4	1121.5	1129.7	1137.8	1145.9	1152.1
130°	1159.2	1159.1	1159.0	1159.0	1158.9	1162.1	1168.7	1175.2	1181.8	1188.3	1195.0
132.5°	1205.9	1206.0	1206.2	1206.4	1206.5	1209.4	1215.1	1220.7	1226.3	1232.0	1238.4
135°	1274.3	1274.0	1273.7	1273.4	1273.2	1274.8	1278.5	1282.1	1285.7	1289.4	1295.6
137.5°	1336.3	1336.1	1335.8	1335.6	1335.4	1336.5	1338.9	1341.4	1343.9	1346.4	1352.2
140°	1376.8	1377.0	1377.2	1377.4	1377.7	1378.2	1379.2	1380.1	1381.0	1382.0	1387.4
142.5°	1411.8	1412.8	1413.8	1414.7	1415.7	1416.2	1416.4	1416.5	1416.6	1416.8	1421.4
145°	1467.3	1467.8	1468.3	1468.8	1469.3	1469.6	1469.6	1469.6	1469.6	1469.6	1472.0
147.5°	1511.6	1512.9	1514.1	1515.4	1516.7	1517.2	1516.9	1516.6	1516.3	1516.0	1516.5
150°	1543.8	1544.6	1545.4	1546.2	1547.0	1547.2	1547.0	1546.7	1546.4	1546.1	1546.1
152.5°	1569.5	1570.4	1571.2	1572.1	1572.9	1573.1	1572.6	1572.0	1571.5	1571.0	1571.5
155°	1607.1	1607.3	1607.6	1607.9	1608.2	1607.9	1607.1	1606.2	1605.3	1604.5	1605.6
157.5°	1639.0	1638.8	1638.6	1638.4	1638.3	1637.7	1636.7	1635.7	1634.8	1633.8	1635.3
160°	1657.6	1656.8	1655.9	1655.0	1654.2	1653.6	1653.3	1653.0	1652.7	1652.5	1654.2
162.5°	1674.2	1673.1	1672.1	1671.0	1669.9	1669.2	1668.9	1668.6	1668.3	1668.0	1669.7
165°	1695.3	1693.8	1692.4	1690.9	1689.5	1688.8	1688.8	1688.8	1688.8	1688.8	1691.1
167.5°	1711.9	1710.4	1708.9	1707.4	1705.9	1705.0	1704.9	1704.7	1704.5	1704.3	1706.9
170°	1721.2	1719.5	1717.7	1716.0	1714.3	1713.6	1713.8	1714.1	1714.4	1714.7	1717.0
172.5°	1727.4	1725.7	1724.0	1722.2	1720.5	1719.8	1720.1	1720.4	1720.6	1720.9	1723.2
175°	1734.2	1732.4	1730.7	1729.0	1727.2	1726.5	1726.8	1727.1	1727.4	1727.7	1730.3
177.5°	1737.3	1735.7	1734.0	1732.4	1730.8	1730.2	1730.7	1731.2	1731.6	1732.1	1733.9
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



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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°	209.3	220.0	230.6	237.5	240.8	244.0	247.3	250.5
90°	210.7	222.7	234.7	242.4	245.8	249.2	252.7	256.1
92.5°	201.4	213.1	224.9	232.2	235.2	238.1	241.1	244.0
95°	190.1	201.4	212.7	220.1	223.6	227.1	230.5	234.0
97.5°	182.2	191.7	201.1	207.5	210.9	214.2	217.6	220.9
100°	187.8	192.5	197.2	200.9	203.7	206.4	209.2	212.0
102.5°	302.8	259.3	215.7	195.3	198.1	201.0	203.8	206.6
105°	533.0	544.5	555.9	557.9	550.4	542.8	535.3	527.7
107.5°	620.7	630.7	640.7	647.5	651.1	654.8	658.4	662.1
110°	680.5	689.2	698.0	704.2	707.9	711.6	715.3	719.0



TEST NUMBER: P332855

CATALOG NUMBER: S124DIW-S1195D1340U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	737.5	745.3	753.1	758.9	762.8	766.8	770.7	774.6
115°	823.4	831.7	840.1	845.6	848.0	850.5	853.0	855.5
117.5°	909.1	916.3	923.6	928.6	931.3	934.1	936.8	939.5
120°	961.6	969.3	977.0	981.9	984.2	986.5	988.7	991.0
122.5°	1013.9	1021.4	1028.8	1033.5	1035.5	1037.5	1039.4	1041.4
125°	1087.2	1094.8	1102.4	1107.4	1109.8	1112.3	1114.7	1117.1
127.5°	1158.4	1164.6	1170.8	1175.0	1177.2	1179.3	1181.5	1183.7
130°	1201.7	1208.3	1215.0	1219.4	1221.5	1223.7	1225.8	1227.9
132.5°	1244.8	1251.1	1257.5	1261.7	1263.6	1265.5	1267.4	1269.3
135°	1301.9	1308.1	1314.4	1318.9	1321.6	1324.3	1327.0	1329.7
137.5°	1358.0	1363.8	1369.6	1373.3	1374.9	1376.5	1378.1	1379.7
140°	1392.9	1398.4	1403.9	1407.6	1409.7	1411.8	1413.8	1415.9
142.5°	1426.1	1430.8	1435.5	1438.6	1440.1	1441.7	1443.2	1444.8
145°	1474.4	1476.8	1479.2	1481.4	1483.4	1485.4	1487.4	1489.4
147.5°	1517.0	1517.5	1518.1	1519.0	1520.5	1521.9	1523.3	1524.7
150°	1546.1	1546.1	1546.1	1546.2	1546.5	1546.8	1547.1	1547.4
152.5°	1571.9	1572.4	1572.8	1573.0	1572.8	1572.6	1572.5	1572.3
155°	1606.8	1607.9	1609.1	1609.2	1608.4	1607.5	1606.6	1605.8
157.5°	1636.8	1638.3	1639.8	1639.8	1638.3	1636.8	1635.3	1633.8
160°	1655.9	1657.6	1659.4	1659.4	1657.6	1655.9	1654.2	1652.5
162.5°	1671.5	1673.2	1674.9	1674.8	1672.9	1670.9	1668.9	1667.0
165°	1693.4	1695.7	1698.0	1697.8	1695.3	1692.7	1690.1	1687.5
167.5°	1709.4	1711.9	1714.5	1714.3	1711.4	1708.5	1705.7	1702.8
170°	1719.3	1721.6	1723.9	1723.6	1720.8	1717.9	1715.0	1712.1
172.5°	1725.5	1727.9	1730.2	1729.8	1726.6	1723.5	1720.4	1717.3
175°	1732.9	1735.5	1738.1	1737.6	1734.2	1730.7	1727.2	1723.8
177.5°	1735.8	1737.6	1739.5	1739.0	1736.2	1733.5	1730.7	1727.9
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2

(END OF REPORT)