

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: P332843

Luminaire Tested: **S124DIW-S1195D770U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332843
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-S1195D770U835-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7933.6 lumens
Efficiency: N/A
Efficacy: 132.7 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

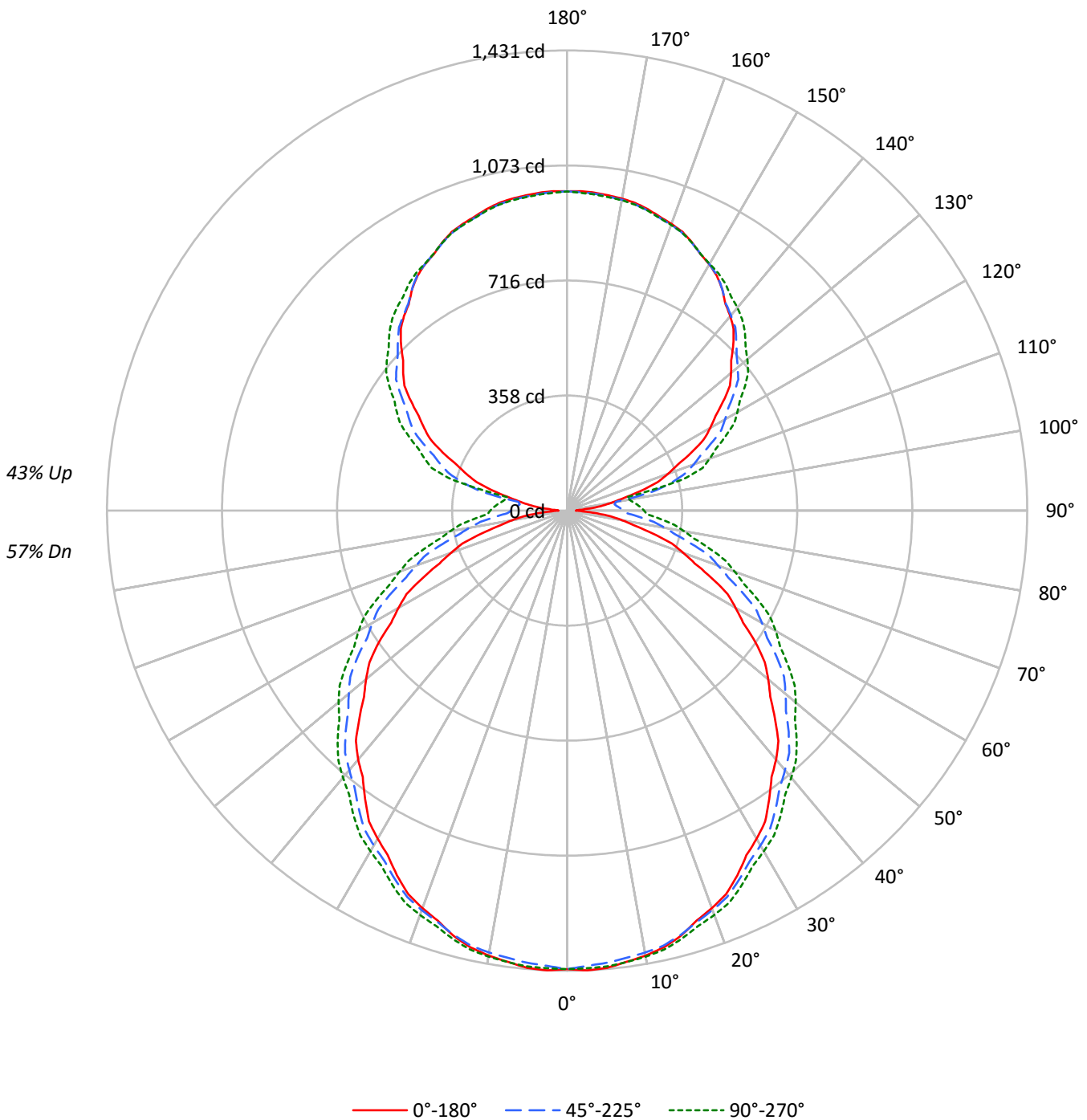
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332843

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	50	30	10	0													
RCR																																					
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57																			
1	98	93	89	85	91	87	83	80	75	72	69	63	61	59	53	52	50	45																			
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	41	37																			
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31																			
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	32	30	26																			
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	29	26	22																			
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	20																			
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17																			
8	53	40	32	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15																			
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14																			
10	46	34	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12																			

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	1.7
10°-20°	386.9	4.9
20°-30°	585.0	7.4
30°-40°	707.8	8.9
40°-50°	748.3	9.4
50°-60°	704.2	8.9
60°-70°	584.3	7.4
70°-80°	410.4	5.2
80°-90°	234.9	3.0
90°-100°	171.7	2.2
100°-110°	318.4	4.0
110°-120°	482.5	6.1
120°-130°	564.2	7.1
130°-140°	579.0	7.3
140°-150°	529.2	6.7
150°-160°	424.1	5.3
160°-170°	273.5	3.4
170°-180°	94.3	1.2
0°-30°	1106.9	14.0
0°-40°	1814.7	22.9
0°-60°	3267.3	41.2
0°-90°	4496.9	56.7
90°-120°	972.6	12.3
90°-150°	2645.0	33.3
90°-180°	3437.0	43.3
0°-180°	7933.6	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°	28	100	174	223	239	19
95°	62	91	155	201	218	69
105°	238	276	337	380	370	250
115°	427	445	494	529	542	420
125°	593	596	633	664	676	529
135°	731	731	744	770	782	563
145°	840	841	841	851	859	525
155°	920	920	918	921	919	424
165°	970	967	966	972	966	274
175°	992	988	989	995	986	94
180°	992	992	992	992	992	



TEST NUMBER: P332843

CATALOG NUMBER: S124DIW-S1195D770U835-4F0-1E-UDD-D

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°	47.7	62.6	77.4	92.2	107.1	122.4	138.2	154.0	169.8	185.6	196.1
90°	27.8	43.8	59.8	75.8	91.8	108.1	124.7	141.3	157.8	174.4	185.7
92.5°	33.6	46.5	59.4	72.2	85.1	99.8	116.4	133.0	149.6	166.2	177.2
95°	61.6	67.7	73.8	79.9	86.0	96.4	111.1	125.8	140.5	155.3	165.8
97.5°	105.5	119.1	132.7	146.3	159.8	164.6	160.6	156.6	152.6	148.6	158.0
100°	139.3	151.5	163.7	175.9	188.1	189.7	180.8	171.9	162.9	154.0	160.8
102.5°	178.5	188.8	199.0	209.3	219.6	230.0	240.6	251.2	261.7	272.3	251.4
105°	237.8	245.9	254.0	262.1	270.1	281.2	295.1	309.1	323.0	337.0	347.3
107.5°	295.5	301.8	308.2	314.5	320.8	330.7	344.3	357.8	371.3	384.9	394.3
110°	333.4	338.9	344.4	349.8	355.3	364.7	378.1	391.5	405.0	418.4	426.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	370.2	375.5	380.8	386.0	391.3	400.1	412.4	424.8	437.1	449.4	457.2
115°	426.7	430.4	434.1	437.8	441.5	448.9	460.1	471.3	482.5	493.7	501.8
117.5°	479.1	481.7	484.3	486.9	489.4	496.2	507.1	518.1	529.0	539.9	547.3
120°	513.5	515.2	516.9	518.7	520.4	526.3	536.4	546.6	556.7	566.8	574.2
122.5°	546.7	547.3	548.0	548.6	549.2	554.5	564.4	574.4	584.3	594.3	601.6
125°	592.8	593.1	593.4	593.7	594.0	598.4	607.0	615.5	624.1	632.6	639.8
127.5°	637.6	637.4	637.2	637.0	636.8	640.5	648.1	655.7	663.3	670.8	677.1
130°	665.4	665.2	665.0	664.9	664.7	667.7	673.8	680.0	686.2	692.3	698.9
132.5°	692.1	692.1	692.0	692.0	691.9	694.5	699.6	704.8	710.0	715.1	721.4
135°	730.6	730.5	730.3	730.1	730.0	731.5	734.6	737.8	740.9	744.0	750.0
137.5°	766.1	765.8	765.5	765.2	765.0	765.8	767.7	769.6	771.6	773.5	779.1
140°	789.3	789.2	789.2	789.2	789.2	789.5	790.2	790.9	791.6	792.2	797.4
142.5°	808.8	809.3	809.8	810.4	810.9	811.1	811.1	811.1	811.1	811.1	815.5
145°	840.4	840.5	840.7	840.8	840.9	841.0	841.0	841.0	841.0	841.0	843.3
147.5°	865.8	866.3	866.9	867.5	868.0	868.2	868.1	867.9	867.7	867.6	868.0
150°	884.2	884.5	884.8	885.1	885.4	885.5	885.3	885.1	885.0	884.8	884.8
152.5°	898.3	898.8	899.3	899.7	900.2	900.2	899.9	899.7	899.4	899.1	899.3
155°	919.7	919.9	920.0	920.2	920.4	920.2	919.7	919.2	918.7	918.2	918.9
157.5°	938.0	937.9	937.8	937.7	937.6	937.2	936.7	936.1	935.5	935.0	935.8
160°	948.6	948.1	947.7	947.2	946.7	946.3	946.2	946.0	945.8	945.7	946.7
162.5°	958.1	957.5	956.9	956.3	955.6	955.2	955.1	954.9	954.7	954.6	955.6
165°	970.2	969.3	968.5	967.7	966.9	966.5	966.5	966.5	966.5	966.5	967.8
167.5°	979.7	978.8	978.0	977.1	976.2	975.8	975.7	975.6	975.5	975.4	976.8
170°	985.0	984.0	983.0	982.0	981.1	980.6	980.8	981.0	981.1	981.3	982.6
172.5°	988.6	987.6	986.6	985.6	984.6	984.2	984.4	984.5	984.7	984.9	986.2
175°	992.4	991.4	990.5	989.5	988.5	988.1	988.2	988.4	988.6	988.7	990.2
177.5°	994.2	993.3	992.4	991.4	990.5	990.2	990.5	990.7	991.0	991.2	992.3
180°	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4



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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°	206.6	217.1	227.6	234.4	237.6	240.8	244.0	247.2
90°	197.0	208.3	219.5	226.8	229.9	233.1	236.3	239.4
92.5°	188.1	199.1	210.1	217.1	220.0	222.9	225.8	228.7
95°	176.4	187.0	197.5	204.5	207.9	211.2	214.6	217.9
97.5°	167.4	176.8	186.2	192.5	195.7	198.9	202.2	205.4
100°	167.6	174.3	181.1	185.8	188.5	191.1	193.8	196.4
102.5°	230.4	209.5	188.5	179.4	182.2	185.0	187.8	190.6
105°	357.7	368.1	378.4	382.0	378.9	375.8	372.7	369.6
107.5°	403.8	413.2	422.7	429.0	432.2	435.4	438.6	441.7
110°	435.3	443.8	452.3	458.2	461.6	464.9	468.2	471.6



TEST NUMBER: P332843

CATALOG NUMBER: S124DIW-S1195D770U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	465.0	472.8	480.6	486.3	489.7	493.2	496.7	500.1
115°	510.0	518.1	526.2	531.6	534.0	536.5	539.0	541.5
117.5°	554.6	561.9	569.2	574.2	577.0	579.8	582.6	585.3
120°	581.7	589.1	596.5	601.5	604.0	606.5	609.0	611.5
122.5°	608.9	616.2	623.4	628.2	630.4	632.7	634.9	637.1
125°	647.1	654.3	661.5	666.3	668.6	670.9	673.2	675.5
127.5°	683.4	689.7	696.0	700.3	702.5	704.8	707.1	709.4
130°	705.5	712.0	718.6	722.9	725.0	727.2	729.3	731.4
132.5°	727.7	734.0	740.2	744.4	746.3	748.3	750.3	752.3
135°	756.1	762.1	768.1	772.3	774.8	777.2	779.7	782.1
137.5°	784.6	790.1	795.7	799.3	801.0	802.6	804.3	806.0
140°	802.5	807.6	812.7	816.2	818.1	820.1	822.0	824.0
142.5°	819.9	824.3	828.7	831.7	833.2	834.7	836.2	837.8
145°	845.6	847.9	850.2	852.2	854.0	855.7	857.5	859.2
147.5°	868.4	868.8	869.2	870.1	871.4	872.7	874.0	875.3
150°	884.8	884.8	884.8	884.9	885.1	885.2	885.4	885.5
152.5°	899.6	899.8	900.1	900.2	900.1	900.0	899.9	899.8
155°	919.5	920.2	920.8	920.9	920.4	919.9	919.4	919.0
157.5°	936.7	937.6	938.4	938.4	937.6	936.7	935.8	935.0
160°	947.7	948.6	949.6	949.6	948.6	947.7	946.7	945.7
162.5°	956.6	957.5	958.5	958.5	957.4	956.2	955.1	954.0
165°	969.1	970.4	971.7	971.7	970.2	968.7	967.2	965.7
167.5°	978.3	979.7	981.2	981.1	979.4	977.8	976.1	974.5
170°	983.9	985.3	986.6	986.4	984.8	983.1	981.5	979.8
172.5°	987.5	988.8	990.1	989.9	988.1	986.4	984.6	982.8
175°	991.7	993.2	994.7	994.4	992.4	990.5	988.5	986.5
177.5°	993.4	994.4	995.5	995.2	993.6	992.0	990.5	988.9
180°	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4

(END OF REPORT)