

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: P332077

Luminaire Tested: **S123DIP-S1165D1025U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332077
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8562.8 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

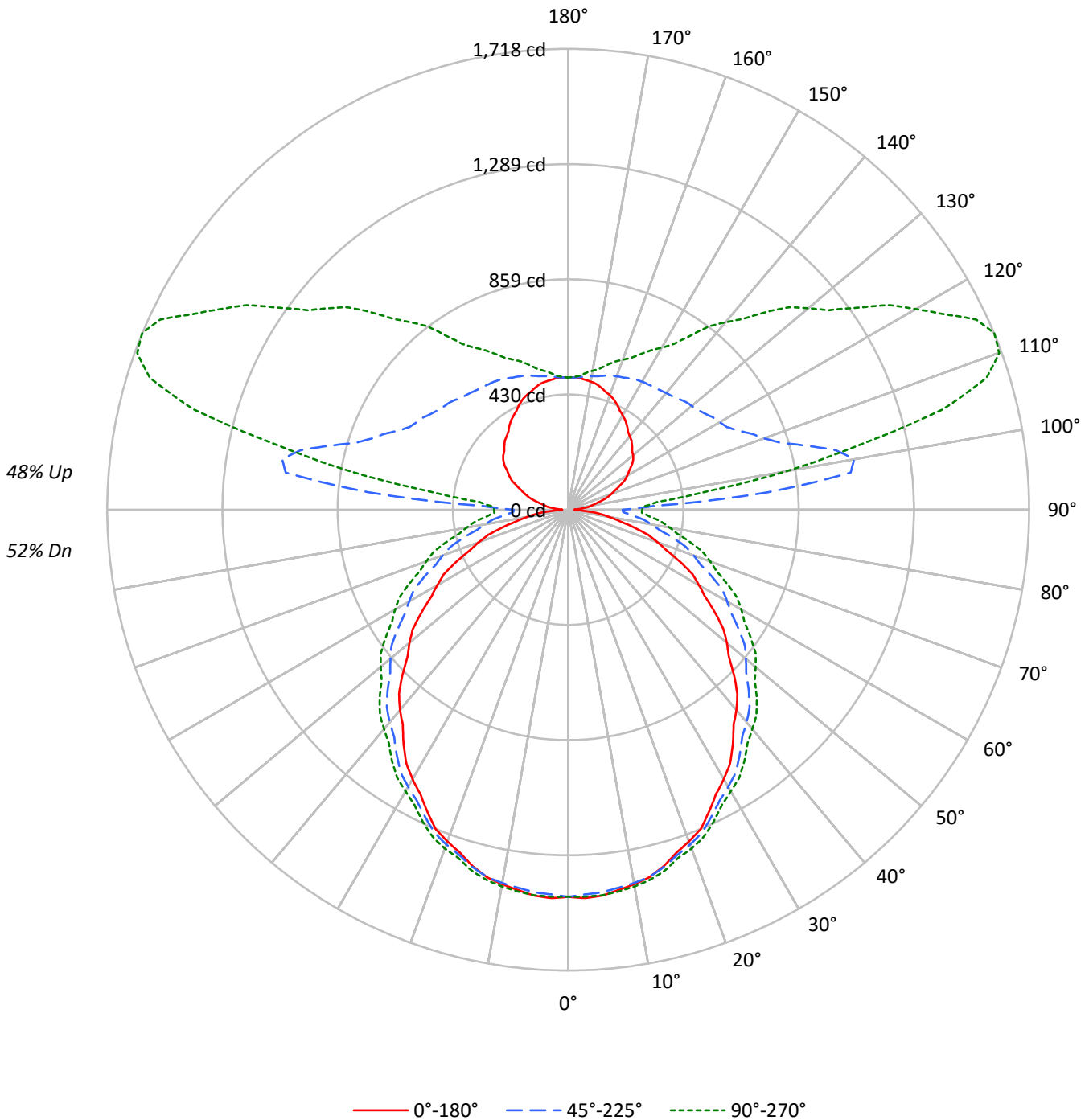
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58	52
1	97	92	88	84	90	85	82	78	72	70	67	60	58	57	49	48	47	41
2	88	80	73	68	81	74	68	63	63	58	55	52	49	46	43	41	38	34
3	80	70	62	56	74	65	58	52	55	50	45	46	42	39	38	35	32	28
4	73	62	53	47	67	57	50	44	49	43	38	41	36	33	33	30	28	24
5	67	55	46	40	61	51	43	38	43	38	33	36	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	37	29	24	45	34	27	22	29	24	20	25	21	17	21	17	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	1.6
10°-20°	390.0	4.6
20°-30°	583.2	6.8
30°-40°	696.5	8.1
40°-50°	728.7	8.5
50°-60°	683.9	8.0
60°-70°	571.2	6.7
70°-80°	408.7	4.8
80°-90°	247.5	2.9
90°-100°	427.3	5.0
100°-110°	889.4	10.4
110°-120°	839.4	9.8
120°-130°	652.6	7.6
130°-140°	500.0	5.8
140°-150°	362.9	4.2
150°-160°	250.1	2.9
160°-170°	146.9	1.7
170°-180°	47.8	0.6
0°-30°	1110.0	13.0
0°-40°	1806.5	21.1
0°-60°	3219.1	37.6
0°-90°	4446.4	51.9
90°-120°	2156.1	25.2
90°-150°	3671.6	42.9
90°-180°	4116.0	48.1
0°-180°	8562.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	22	110	203	257	276	16
95°	51	190	748	375	336	50
105°	128	223	920	1564	1446	136
115°	212	284	697	1466	1678	211
125°	289	343	623	1120	1312	257
135°	336	400	584	901	1042	260
145°	382	436	558	713	790	239
155°	432	466	540	614	640	199
165°	472	486	517	548	558	133
175°	492	493	496	503	502	47
180°	493	493	493	493	493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	42.2	60.0	77.8	95.8	113.6	131.6	150.0	168.4	186.8	205.3	216.9
90°	22.4	41.5	60.7	80.8	99.9	119.3	140.2	161.0	181.8	202.6	213.5
92.5°	31.6	53.0	76.8	100.0	123.9	155.1	198.8	259.3	318.9	321.1	295.0
95°	51.2	67.8	92.4	123.0	162.6	216.9	318.9	484.7	665.5	747.5	646.6
97.5°	73.3	86.6	107.5	134.5	172.4	228.8	326.2	510.3	799.5	1061.6	1136.1
100°	88.0	100.2	118.4	143.5	178.6	231.2	317.1	480.9	759.5	1082.0	1288.8
102.5°	103.5	115.4	131.6	154.9	186.5	235.1	313.6	454.8	704.3	1022.6	1289.0
105°	128.4	139.7	154.1	174.5	201.8	244.5	313.4	431.2	634.9	920.4	1216.7
107.5°	153.2	163.3	176.3	195.2	220.1	259.5	321.1	420.8	587.1	829.2	1098.7
110°	171.1	180.4	191.7	209.0	232.2	270.3	329.2	419.0	566.8	777.4	1025.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	188.7	196.9	207.0	223.2	245.3	281.8	336.9	420.6	551.8	739.5	958.9
115°	212.5	220.7	230.9	245.0	266.2	301.5	352.0	425.5	539.9	697.2	878.3
117.5°	237.5	244.7	252.3	264.0	285.6	317.7	367.1	433.2	531.4	667.0	824.7
120°	253.8	258.6	265.3	277.0	297.8	329.3	376.8	440.2	528.6	652.0	795.7
122.5°	269.0	272.9	278.8	290.5	309.6	342.1	388.2	447.0	528.5	640.1	770.8
125°	289.2	291.2	297.2	308.2	327.1	359.1	404.2	458.3	528.3	623.3	737.4
127.5°	305.8	308.4	315.4	326.3	346.9	377.9	420.0	467.9	530.2	610.2	706.8
130°	316.1	318.8	327.4	339.1	359.7	389.9	429.9	474.8	531.7	601.5	689.0
132.5°	322.9	326.6	336.3	350.6	371.5	400.4	438.1	480.9	531.6	594.5	672.1
135°	336.5	340.2	350.8	365.4	386.0	414.7	449.5	487.3	531.1	583.8	649.0
137.5°	349.4	353.3	363.8	379.5	400.0	425.9	457.8	492.3	530.0	574.1	628.9
140°	356.9	361.9	371.9	387.9	407.8	433.3	463.3	494.3	529.3	568.3	616.4
142.5°	366.5	370.4	380.9	395.0	414.7	438.0	466.4	495.7	527.5	561.6	604.4
145°	381.9	384.5	393.2	407.8	424.4	447.2	473.1	500.1	528.0	558.0	592.7
147.5°	395.9	397.7	406.5	419.4	435.8	455.4	479.1	503.3	528.0	554.2	582.4
150°	406.3	407.3	415.2	428.2	442.2	460.2	483.1	504.1	528.0	551.0	575.9
152.5°	416.6	416.8	424.8	436.2	448.6	465.8	485.5	505.7	525.6	547.0	569.6
155°	432.2	432.2	438.2	448.2	459.2	473.1	490.1	506.1	523.0	540.0	560.0
157.5°	444.6	445.4	450.2	459.0	468.3	479.1	492.7	507.1	519.7	533.8	549.2
160°	454.2	454.2	458.2	466.1	473.1	483.1	495.1	507.1	518.1	529.0	542.0
162.5°	461.4	461.4	464.6	470.9	477.1	485.5	495.9	506.3	514.9	524.2	534.8
165°	472.1	471.1	473.1	478.1	482.1	489.1	497.1	504.1	510.1	517.1	525.0
167.5°	480.3	479.1	480.1	483.9	486.7	491.1	496.9	502.5	505.3	509.9	515.7
170°	485.1	483.1	484.1	487.1	489.1	491.1	496.1	500.1	502.1	505.1	510.1
172.5°	488.3	487.1	487.3	489.5	490.7	491.9	496.1	499.3	499.7	501.1	504.5
175°	492.1	491.1	490.1	492.1	492.1	493.1	495.1	497.1	496.1	496.1	498.1
177.5°	493.9	493.1	492.3	493.1	493.1	493.1	493.9	495.5	493.9	493.1	493.9
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	229.0	241.1	253.2	261.2	264.5	268.2	271.9	275.2
90°	226.3	239.2	252.1	261.8	264.3	268.8	273.2	275.7
92.5°	274.8	269.0	272.8	275.1	276.5	276.7	280.9	282.3
95°	536.6	431.7	389.6	360.8	345.3	339.8	336.4	335.9
97.5°	1060.9	893.0	774.7	662.2	592.1	550.6	527.2	522.1
100°	1333.9	1263.1	1156.5	1021.6	924.2	854.9	819.4	823.9
102.5°	1419.2	1426.5	1368.2	1285.1	1210.1	1155.9	1126.8	1107.4
105°	1435.1	1544.7	1573.4	1553.9	1511.2	1476.4	1447.6	1445.7
107.5°	1344.6	1516.1	1612.9	1654.6	1658.5	1648.8	1641.1	1635.0
110°	1262.7	1455.4	1590.3	1666.1	1696.8	1707.6	1708.4	1709.2



TEST NUMBER: P332077

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1180.3	1376.8	1526.5	1622.3	1676.5	1704.3	1715.0	1718.4
115°	1071.3	1253.4	1408.5	1522.9	1600.5	1647.3	1670.0	1677.8
117.5°	988.9	1147.1	1287.2	1403.1	1483.9	1536.9	1568.4	1577.9
120°	944.5	1087.3	1215.1	1321.2	1402.5	1460.8	1487.2	1495.7
122.5°	908.1	1037.9	1156.6	1255.3	1327.9	1380.6	1409.4	1419.4
125°	858.5	974.7	1077.8	1162.6	1228.9	1275.3	1302.7	1312.1
127.5°	813.9	917.9	1011.2	1088.5	1147.8	1187.7	1212.6	1221.4
130°	785.5	882.0	969.5	1041.7	1096.7	1134.7	1157.8	1167.9
132.5°	758.7	847.7	929.3	998.4	1050.5	1088.8	1109.7	1117.7
135°	722.2	799.3	870.5	931.4	982.1	1013.8	1033.5	1042.2
137.5°	688.5	752.2	813.6	866.5	909.4	941.5	958.4	964.7
140°	668.6	724.7	777.9	824.3	864.0	893.7	911.4	912.1
142.5°	648.9	697.3	743.5	784.0	818.1	844.6	860.7	861.5
145°	627.5	663.2	697.9	729.0	755.3	777.7	787.1	790.5
147.5°	610.2	637.2	663.7	685.4	705.6	721.0	729.9	731.9
150°	598.9	621.9	642.8	662.1	677.8	689.5	696.2	696.9
152.5°	590.1	609.9	628.5	644.3	656.2	666.5	670.3	670.4
155°	576.9	592.9	607.9	619.9	628.9	636.8	638.8	639.8
157.5°	563.0	576.3	587.9	597.3	605.1	611.1	612.7	612.5
160°	555.0	566.0	575.9	582.9	589.9	595.9	595.9	594.9
162.5°	545.4	554.8	564.0	570.2	574.8	579.9	579.9	578.9
165°	533.0	539.0	546.0	551.0	555.0	559.0	558.0	558.0
167.5°	522.2	526.8	530.8	534.4	536.2	539.0	538.0	538.0
170°	515.1	518.1	522.0	524.0	525.0	527.0	526.0	526.0
172.5°	508.7	510.9	514.1	515.3	515.5	517.5	515.7	514.9
175°	500.1	501.1	503.1	503.1	503.1	504.1	503.1	502.1
177.5°	494.7	495.5	496.3	496.3	495.5	496.3	494.7	494.7
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1

(END OF REPORT)