

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: P332068

Luminaire Tested: **S123DIP-S1165D805U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332068
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-S1165D805U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7757.9 lumens
Efficiency: N/A
Efficacy: 127.8 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

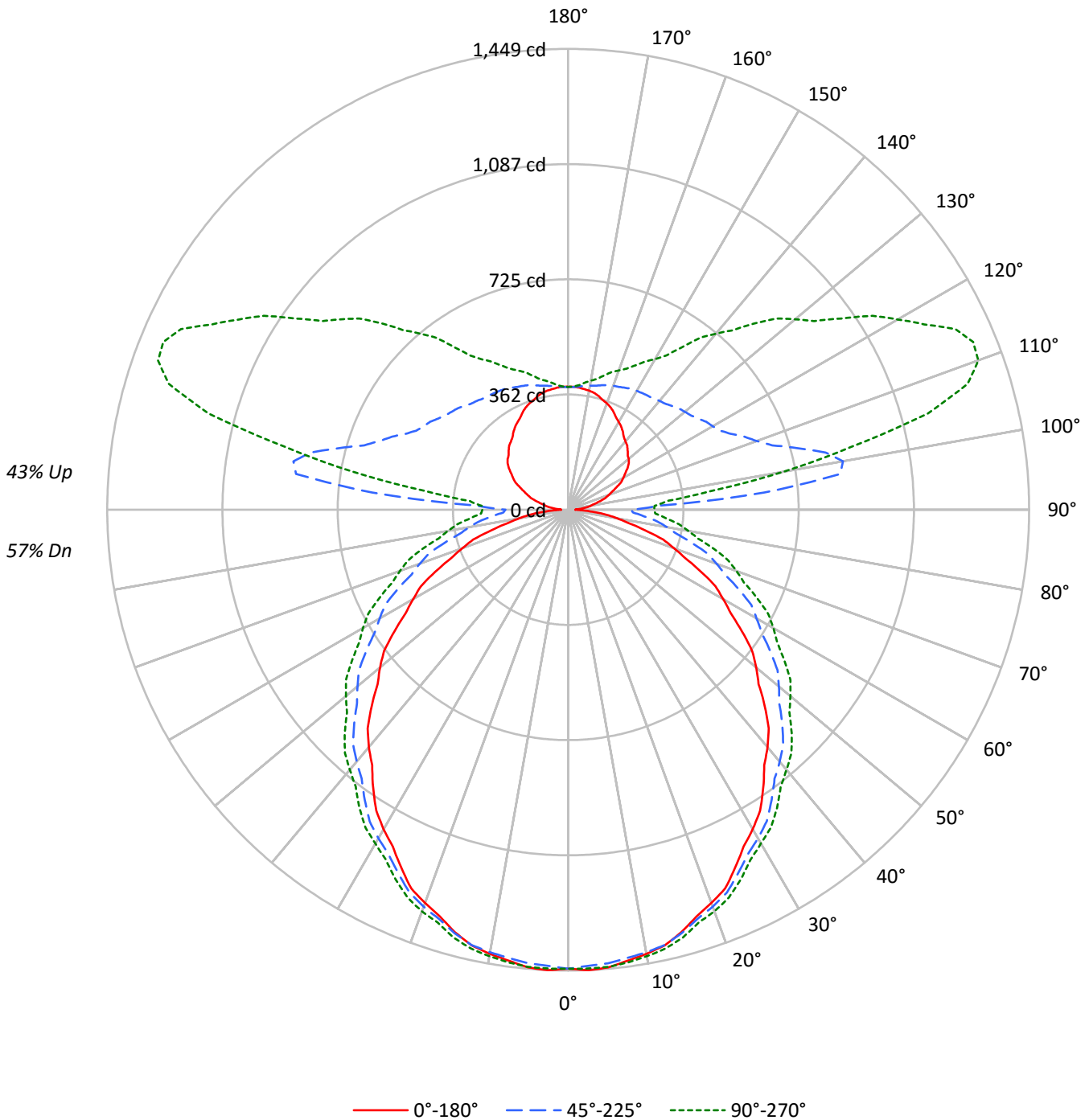
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	75	75	75	63	63	63	57																			
1	98	93	89	85	91	87	83	80	75	72	69	64	62	60	54	52	51	46																			
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	42	37																			
3	81	71	63	56	75	66	59	53	57	51	47	49	44	41	41	38	35	31																			
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	33	30	26																			
5	68	55	47	40	63	52	44	38	45	39	34	39	34	30	33	29	26	23																			
6	62	50	41	35	58	46	39	33	40	34	30	35	30	26	29	26	23	20																			
7	58	45	36	31	53	42	34	29	37	30	26	32	27	23	27	23	20	17																			
8	53	41	33	27	50	38	31	26	33	27	23	29	24	20	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14																			
10	46	34	27	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13																			

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	1.8
10°-20°	390.0	5.0
20°-30°	583.2	7.5
30°-40°	696.5	9.0
40°-50°	728.7	9.4
50°-60°	683.9	8.8
60°-70°	571.2	7.4
70°-80°	408.7	5.3
80°-90°	246.7	3.2
90°-100°	367.8	4.7
100°-110°	721.0	9.3
110°-120°	673.7	8.7
120°-130°	520.4	6.7
130°-140°	395.8	5.1
140°-150°	285.1	3.7
150°-160°	195.9	2.5
160°-170°	115.1	1.5
170°-180°	37.4	0.5
0°-30°	1110.0	14.3
0°-40°	1806.5	23.3
0°-60°	3219.1	41.5
0°-90°	4445.6	57.3
90°-120°	1762.6	22.7
90°-150°	2963.9	38.2
90°-180°	3312.0	42.7
0°-180°	7757.9	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	107	197	251	270	16
95°	44	166	619	338	311	42
105°	103	186	746	1260	1170	109
115°	168	229	564	1174	1343	167
125°	228	270	499	895	1048	202
135°	264	314	461	716	828	204
145°	299	341	437	561	623	187
155°	338	365	423	481	501	156
165°	370	380	405	430	437	104
175°	385	386	389	394	393	37
180°	386	386	386	386	386	



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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°	42.1	59.8	77.5	95.4	113.1	131.0	149.3	167.6	185.9	204.2	215.9
90°	22.0	40.7	59.4	78.8	97.5	116.5	136.7	156.9	177.0	197.2	208.3
92.5°	28.9	49.0	71.0	92.5	114.6	142.6	180.6	231.8	282.3	287.8	269.9
95°	43.9	59.8	82.1	109.0	142.9	188.8	272.4	406.0	551.3	619.2	542.5
97.5°	60.8	73.8	92.8	116.7	149.0	196.3	276.2	423.9	654.0	862.8	923.4
100°	72.0	84.0	100.6	122.7	152.7	196.8	267.6	399.4	621.1	877.1	1041.3
102.5°	83.9	95.3	110.3	130.6	157.6	198.5	263.4	377.4	576.3	828.9	1039.7
105°	103.3	114.0	127.1	144.8	168.1	204.0	261.3	356.8	519.6	746.5	980.6
107.5°	122.3	131.8	143.5	159.8	180.9	214.1	265.4	346.5	480.0	672.6	885.7
110°	136.1	144.7	154.9	169.8	189.4	221.4	270.6	343.9	462.7	630.7	826.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	149.8	157.4	166.4	180.2	198.7	229.2	275.3	343.8	449.4	599.4	773.1
115°	168.1	175.5	184.3	196.3	213.8	243.3	285.6	345.9	438.2	564.1	707.8
117.5°	187.7	193.9	200.4	210.1	227.6	254.3	295.5	349.9	429.4	538.1	663.4
120°	200.2	204.3	209.9	219.5	236.1	262.3	301.9	354.1	425.9	524.9	639.3
122.5°	212.1	215.3	220.1	229.5	244.6	271.4	309.8	358.3	424.5	514.3	618.4
125°	227.5	229.1	233.8	242.4	257.2	283.4	320.9	365.4	422.5	499.1	590.1
127.5°	240.5	242.5	247.9	256.4	272.4	297.5	332.4	371.7	422.3	486.8	563.9
130°	248.6	250.6	257.3	266.4	282.4	306.9	339.6	376.3	422.4	478.7	548.6
132.5°	253.6	256.5	264.1	275.3	291.7	314.9	345.7	380.3	421.3	471.7	533.9
135°	264.3	267.0	275.3	286.7	302.7	325.6	353.7	384.1	419.2	461.4	513.8
137.5°	274.3	277.3	285.4	297.7	313.7	334.1	359.6	387.1	417.1	452.1	496.2
140°	279.9	283.8	291.6	304.1	319.8	339.8	363.6	388.1	415.7	446.5	485.3
142.5°	287.4	290.4	298.6	309.6	324.9	343.2	365.4	388.5	413.4	440.2	474.7
145°	299.4	301.4	308.1	319.5	332.4	350.3	370.6	391.7	413.6	437.0	464.9
147.5°	310.1	311.5	318.4	328.5	341.3	356.7	375.3	394.2	413.6	434.1	456.3
150°	318.2	319.0	325.2	335.4	346.3	360.4	378.4	394.8	413.6	431.6	451.1
152.5°	326.3	326.5	332.7	341.7	351.3	364.8	380.3	396.1	411.7	428.4	446.1
155°	338.5	338.5	343.2	351.0	359.6	370.6	383.9	396.4	409.7	423.0	438.6
157.5°	348.2	348.8	352.6	359.5	366.8	375.3	385.9	397.2	407.0	418.1	430.2
160°	355.7	355.7	358.9	365.1	370.6	378.4	387.8	397.2	405.8	414.4	424.5
162.5°	361.4	361.4	363.9	368.9	373.7	380.3	388.4	396.5	403.3	410.6	418.9
165°	369.8	369.0	370.6	374.5	377.6	383.1	389.3	394.8	399.5	405.0	411.2
167.5°	376.2	375.3	376.1	379.0	381.2	384.7	389.2	393.6	395.8	399.4	403.9
170°	380.0	378.4	379.2	381.5	383.1	384.7	388.6	391.7	393.3	395.6	399.5
172.5°	382.5	381.5	381.7	383.4	384.3	385.3	388.6	391.1	391.4	392.5	395.1
175°	385.4	384.7	383.9	385.4	385.4	386.2	387.8	389.3	388.6	388.6	390.1
177.5°	386.8	386.2	385.6	386.2	386.2	386.2	386.8	388.1	386.8	386.2	386.8
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2



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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°	227.9	240.0	252.0	260.0	263.3	267.0	270.6	274.0
90°	220.9	233.6	246.2	255.5	258.2	262.5	266.8	269.5
92.5°	256.6	254.6	260.1	263.4	265.2	266.1	270.1	271.9
95°	458.7	378.9	348.3	327.3	315.9	312.4	310.4	310.8
97.5°	866.7	737.5	647.1	560.5	506.3	474.6	457.0	453.8
100°	1078.8	1025.6	944.2	840.0	764.6	711.0	684.0	688.3
102.5°	1143.9	1151.7	1108.2	1044.5	986.6	944.9	922.9	908.4
105°	1153.8	1241.8	1266.4	1252.6	1219.7	1193.2	1171.3	1170.5
107.5°	1080.4	1216.7	1294.5	1328.6	1332.3	1325.4	1320.0	1315.9
110°	1014.7	1167.7	1275.3	1335.9	1360.6	1369.7	1370.9	1372.1



TEST NUMBER: P332068

CATALOG NUMBER: S123DIP-S1165D805U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	948.5	1104.2	1223.4	1299.7	1342.8	1365.3	1374.3	1377.7
115°	860.8	1005.2	1128.5	1219.3	1280.8	1318.0	1336.4	1343.1
117.5°	793.8	919.6	1031.1	1123.1	1186.9	1229.1	1254.3	1262.3
120°	757.6	871.2	973.0	1057.2	1121.4	1167.7	1188.9	1196.0
122.5°	727.6	830.9	925.6	1004.0	1061.3	1103.2	1126.3	1134.7
125°	686.5	779.1	861.5	928.9	981.4	1018.2	1040.2	1048.1
127.5°	649.4	732.3	806.9	868.4	915.4	947.2	967.2	974.6
130°	625.6	702.6	772.6	830.1	873.6	903.9	922.4	930.8
132.5°	603.1	674.2	739.5	794.6	835.9	866.4	883.3	890.1
135°	572.5	634.3	691.4	739.9	780.0	805.2	821.0	828.2
137.5°	544.1	595.2	644.5	686.7	720.7	746.2	759.8	765.2
140°	527.3	572.4	615.2	652.3	683.7	707.4	721.6	722.6
142.5°	510.5	549.4	586.6	619.1	646.2	667.3	680.3	681.3
145°	492.7	521.3	549.1	573.8	594.8	612.6	620.2	623.2
147.5°	478.3	499.6	520.6	537.8	553.9	566.2	573.4	575.3
150°	469.1	487.1	503.5	518.7	531.1	540.4	545.8	546.5
152.5°	462.2	477.7	492.2	504.7	514.0	522.1	525.1	525.2
155°	451.9	464.4	476.1	485.5	492.5	498.8	500.4	501.1
157.5°	440.9	451.4	460.5	467.8	473.9	478.6	479.9	479.7
160°	434.7	443.3	451.1	456.6	462.1	466.7	466.7	466.0
162.5°	427.2	434.5	441.7	446.6	450.2	454.2	454.2	453.5
165°	417.5	422.2	427.7	431.6	434.7	437.8	437.0	437.0
167.5°	409.0	412.6	415.8	418.6	420.0	422.2	421.4	421.4
170°	403.4	405.8	408.9	410.5	411.2	412.8	412.0	412.0
172.5°	398.4	400.1	402.6	403.6	403.7	405.3	403.9	403.3
175°	391.7	392.5	394.0	394.0	394.0	394.8	394.0	393.3
177.5°	387.5	388.1	388.7	388.7	388.1	388.7	387.5	387.5
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2

(END OF REPORT)