

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: P332049

Luminaire Tested: **S123DIP-S1165D365U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332049
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6096.9 lumens
Efficiency: N/A
Efficacy: 122.4 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: Semi-Direct

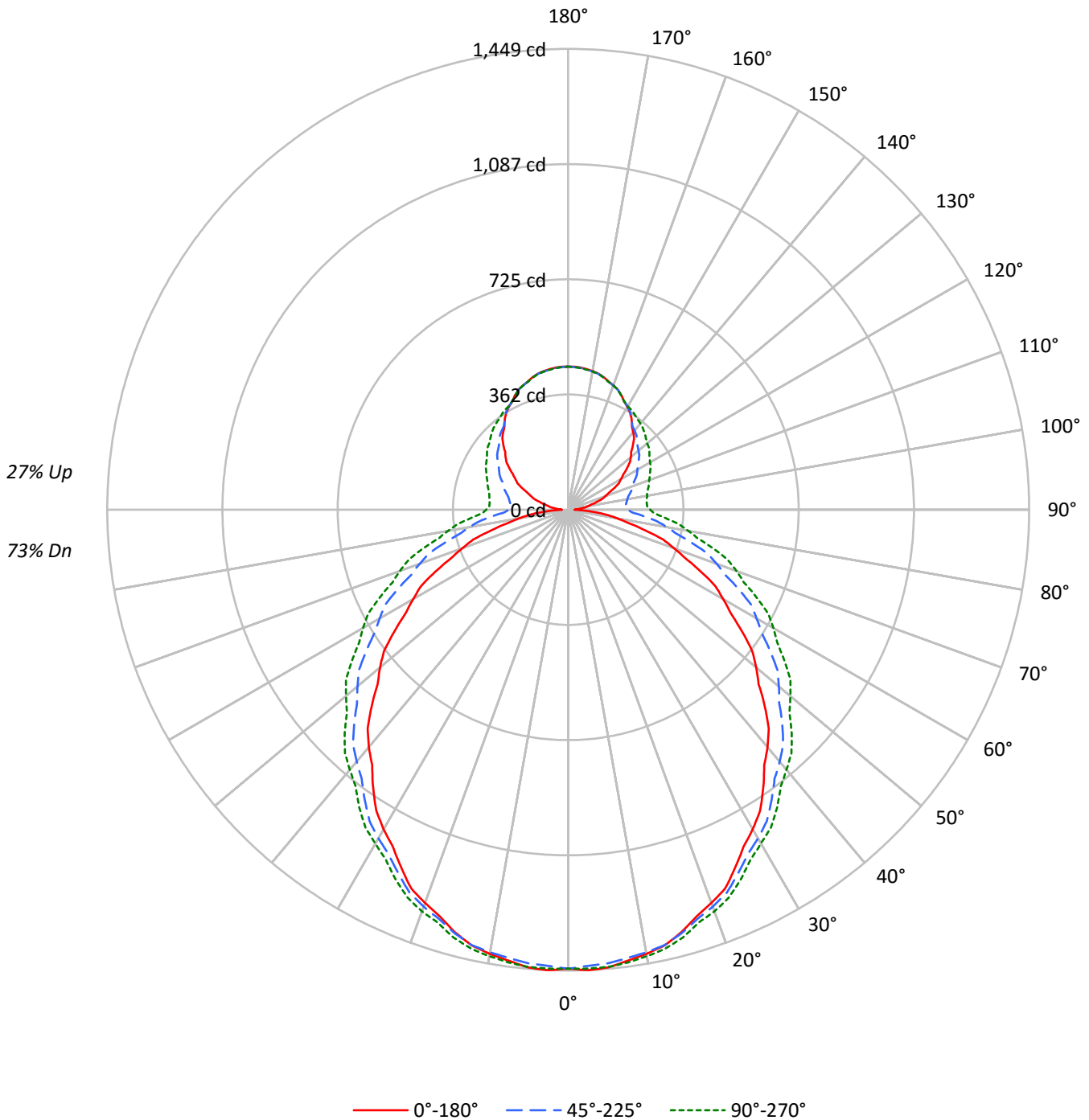
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332049

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D1

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	50	30	10	0		
RCR																										
0	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	77	77	77	77	77	77	73		
1	101	96	92	87	96	91	87	83	82	79	76	74	71	69	66	64	62	66	64	62	66	64	62	58		
2	92	83	76	70	87	79	73	67	71	66	62	64	60	56	57	54	51	57	54	51	57	54	51	48		
3	83	73	64	58	79	69	62	56	62	56	51	56	51	47	50	46	43	50	46	43	50	46	43	40		
4	76	64	55	49	72	61	53	47	55	49	43	50	44	40	44	40	37	44	40	37	44	40	37	34		
5	70	57	48	42	66	54	46	40	49	42	37	44	39	34	40	35	32	40	35	32	40	35	32	29		
6	64	51	42	36	61	49	41	35	44	38	32	40	34	30	36	31	28	36	31	28	36	31	28	25		
7	60	46	38	32	56	44	36	31	40	33	29	36	31	27	33	28	25	33	28	25	33	28	25	22		
8	55	42	34	28	52	40	33	27	37	30	25	33	28	24	30	26	22	30	26	22	30	26	22	20		
9	52	38	30	25	49	37	29	24	34	27	23	31	25	21	28	23	20	28	23	20	28	23	20	18		
10	48	35	28	23	46	34	27	22	31	25	21	28	23	19	26	21	18	26	21	18	26	21	18	16		

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



TEST NUMBER: P332049

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	2.2
10°-20°	390.0	6.4
20°-30°	583.2	9.6
30°-40°	696.5	11.4
40°-50°	728.7	12.0
50°-60°	683.9	11.2
60°-70°	571.2	9.4
70°-80°	408.7	6.7
80°-90°	245.0	4.0
90°-100°	182.2	3.0
100°-110°	200.1	3.3
110°-120°	224.2	3.7
120°-130°	239.1	3.9
130°-140°	239.8	3.9
140°-150°	220.9	3.6
150°-160°	182.6	3.0
160°-170°	121.5	2.0
170°-180°	42.5	0.7
0°-30°	1110.0	18.2
0°-40°	1806.5	29.6
0°-60°	3219.1	52.8
0°-90°	4443.9	72.9
90°-120°	606.5	9.9
90°-150°	1306.4	21.4
90°-180°	1653.0	27.1
0°-180°	6096.9	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°	21	102	186	239	257	15
95°	38	103	182	230	248	37
105°	92	132	201	244	260	98
115°	158	180	234	270	284	157
125°	224	228	270	301	312	201
135°	288	290	306	332	340	222
145°	348	347	348	360	365	217
155°	396	396	396	398	395	182
165°	432	430	430	432	430	122
175°	449	448	447	449	447	43
180°	450	450	450	450	450	



TEST NUMBER: P332049

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D1

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°	41.9	59.4	77.0	94.5	112.1	129.9	147.9	165.9	183.9	202.0	213.9
90°	20.8	38.7	56.6	74.5	92.4	110.8	129.6	148.4	167.3	186.1	198.3
92.5°	27.7	43.7	59.7	75.7	91.6	108.7	126.8	144.9	163.0	181.1	193.0
95°	38.1	52.3	66.5	80.7	94.8	110.8	128.5	146.3	164.0	181.8	192.9
97.5°	52.4	65.1	77.8	90.6	103.3	118.0	134.8	151.6	168.4	185.2	196.0
100°	62.2	73.9	85.5	97.2	108.8	122.9	139.3	155.8	172.2	188.7	199.1
102.5°	73.7	84.0	94.4	104.7	115.0	128.4	144.7	161.0	177.3	193.6	203.7
105°	92.1	100.6	109.2	117.7	126.3	138.4	154.1	169.8	185.6	201.3	211.1
107.5°	112.0	119.2	126.4	133.6	140.9	151.7	166.3	180.8	195.3	209.9	219.5
110°	124.3	130.7	137.2	143.6	150.1	160.3	174.5	188.6	202.7	216.9	226.3



TEST NUMBER: P332049

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.4	143.7	148.9	154.2	159.5	168.8	182.3	195.7	209.2	222.6	231.8
115°	158.1	162.5	166.9	171.3	175.8	184.2	196.6	209.0	221.4	233.9	242.3
117.5°	179.1	181.8	184.6	187.3	190.0	197.2	208.8	220.4	232.0	243.6	251.9
120°	191.1	193.3	195.5	197.8	200.0	206.7	217.8	228.9	240.1	251.2	259.2
122.5°	205.0	206.2	207.5	208.7	210.0	216.0	226.8	237.5	248.3	259.0	266.6
125°	224.5	224.8	225.0	225.2	225.5	230.6	240.5	250.5	260.5	270.5	277.5
127.5°	244.0	244.2	244.3	244.5	244.6	248.8	257.0	265.2	273.5	281.7	288.1
130°	257.0	257.3	257.6	257.9	258.2	261.7	268.4	275.2	281.9	288.7	295.0
132.5°	268.8	269.3	269.9	270.5	271.0	274.0	279.4	284.8	290.3	295.7	301.7
135°	288.3	288.5	288.6	288.7	288.8	290.8	294.5	298.3	302.1	305.8	311.8
137.5°	306.4	306.5	306.6	306.7	306.8	308.1	310.5	312.8	315.2	317.6	322.8
140°	317.9	318.2	318.6	319.0	319.4	320.2	321.3	322.4	323.6	324.7	329.9
142.5°	329.4	329.6	329.7	329.8	329.9	330.1	330.5	330.8	331.2	331.5	336.1
145°	347.5	347.3	347.2	347.0	346.8	346.8	347.0	347.3	347.5	347.7	350.5
147.5°	361.8	362.1	362.4	362.7	362.9	363.2	363.4	363.6	363.8	364.1	364.9
150°	372.8	373.0	373.1	373.3	373.5	373.6	373.8	373.9	374.1	374.2	374.2
152.5°	381.9	382.1	382.3	382.5	382.8	382.9	383.0	383.1	383.2	383.3	383.4
155°	396.2	396.2	396.2	396.2	396.2	396.2	396.3	396.3	396.4	396.5	396.8
157.5°	408.3	408.2	408.1	408.0	407.9	407.9	408.0	408.0	408.1	408.2	408.5
160°	415.9	415.8	415.6	415.5	415.3	415.2	415.2	415.2	415.2	415.2	415.6
162.5°	422.7	422.5	422.3	422.1	421.8	421.8	421.8	421.9	422.0	422.0	422.4
165°	431.5	431.3	431.0	430.8	430.5	430.4	430.4	430.4	430.4	430.4	430.9
167.5°	438.5	438.2	437.9	437.5	437.2	437.1	437.2	437.2	437.3	437.4	437.8
170°	442.4	442.1	441.8	441.5	441.2	441.0	441.0	441.0	441.0	441.0	441.6
172.5°	445.6	445.2	444.9	444.6	444.3	444.1	444.1	444.1	444.1	444.1	444.6
175°	448.8	448.5	448.2	447.9	447.6	447.4	447.4	447.4	447.4	447.4	447.9
177.5°	450.1	449.9	449.6	449.4	449.1	449.0	449.0	449.0	449.0	449.0	449.4
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



TEST NUMBER: P332049

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D1

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°	225.8	237.8	249.7	257.4	261.0	264.5	268.0	271.5
90°	210.5	222.7	234.9	242.8	246.4	250.1	253.7	257.4
92.5°	204.8	216.7	228.5	236.0	239.1	242.3	245.4	248.5
95°	204.1	215.2	226.3	233.7	237.2	240.6	244.1	247.6
97.5°	206.8	217.5	228.3	235.4	238.9	242.3	245.8	249.3
100°	209.4	219.8	230.2	237.2	240.8	244.5	248.1	251.8
102.5°	213.8	223.9	233.9	240.7	244.2	247.6	251.1	254.6
105°	220.9	230.6	240.4	247.0	250.3	253.6	256.9	260.2
107.5°	229.1	238.7	248.3	254.6	257.6	260.6	263.6	266.5
110°	235.7	245.1	254.5	260.5	263.1	265.7	268.4	271.0



TEST NUMBER: P332049

CATALOG NUMBER: S123DIP-S1165D365U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	241.0	250.1	259.3	265.4	268.5	271.5	274.6	277.6
115°	250.8	259.2	267.7	273.3	276.0	278.7	281.4	284.2
117.5°	260.2	268.5	276.8	282.2	284.7	287.2	289.7	292.2
120°	267.1	275.1	283.0	288.1	290.4	292.7	295.0	297.3
122.5°	274.1	281.7	289.2	294.1	296.4	298.6	300.8	303.0
125°	284.5	291.5	298.5	303.1	305.3	307.4	309.5	311.6
127.5°	294.6	301.1	307.6	311.8	313.8	315.9	317.9	319.9
130°	301.3	307.6	314.0	317.9	319.4	321.0	322.5	324.1
132.5°	307.6	313.6	319.6	323.6	325.5	327.5	329.4	331.4
135°	317.8	323.7	329.7	333.5	335.1	336.7	338.3	339.9
137.5°	327.9	333.1	338.3	341.6	343.1	344.5	346.0	347.4
140°	335.0	340.2	345.3	348.5	349.7	350.9	352.1	353.3
142.5°	340.7	345.3	349.9	352.9	354.2	355.6	356.9	358.2
145°	353.2	355.9	358.6	360.5	361.6	362.7	363.7	364.8
147.5°	365.7	366.6	367.4	368.2	369.0	369.8	370.6	371.4
150°	374.2	374.2	374.2	374.4	374.6	374.8	375.0	375.3
152.5°	383.5	383.7	383.8	383.7	383.5	383.2	382.9	382.6
155°	397.1	397.4	397.8	397.6	397.1	396.5	396.0	395.4
157.5°	408.8	409.2	409.5	409.4	409.0	408.6	408.1	407.7
160°	416.0	416.4	416.8	416.8	416.5	416.2	415.9	415.6
162.5°	422.8	423.2	423.6	423.5	423.0	422.5	422.0	421.5
165°	431.4	431.8	432.3	432.3	431.7	431.2	430.6	430.1
167.5°	438.3	438.8	439.3	439.3	438.8	438.3	437.8	437.4
170°	442.1	442.7	443.2	443.2	442.7	442.1	441.6	441.0
172.5°	445.1	445.6	446.1	446.1	445.5	445.0	444.4	443.9
175°	448.3	448.8	449.3	449.2	448.7	448.1	447.6	447.0
177.5°	449.8	450.1	450.5	450.5	450.1	449.6	449.2	448.7
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9

(END OF REPORT)