

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: P332048-935

Luminaire Tested: **S123DIP-S1165D365U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332048-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D365U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5425.1 lumens
Efficiency: N/A
Efficacy: 108.9 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

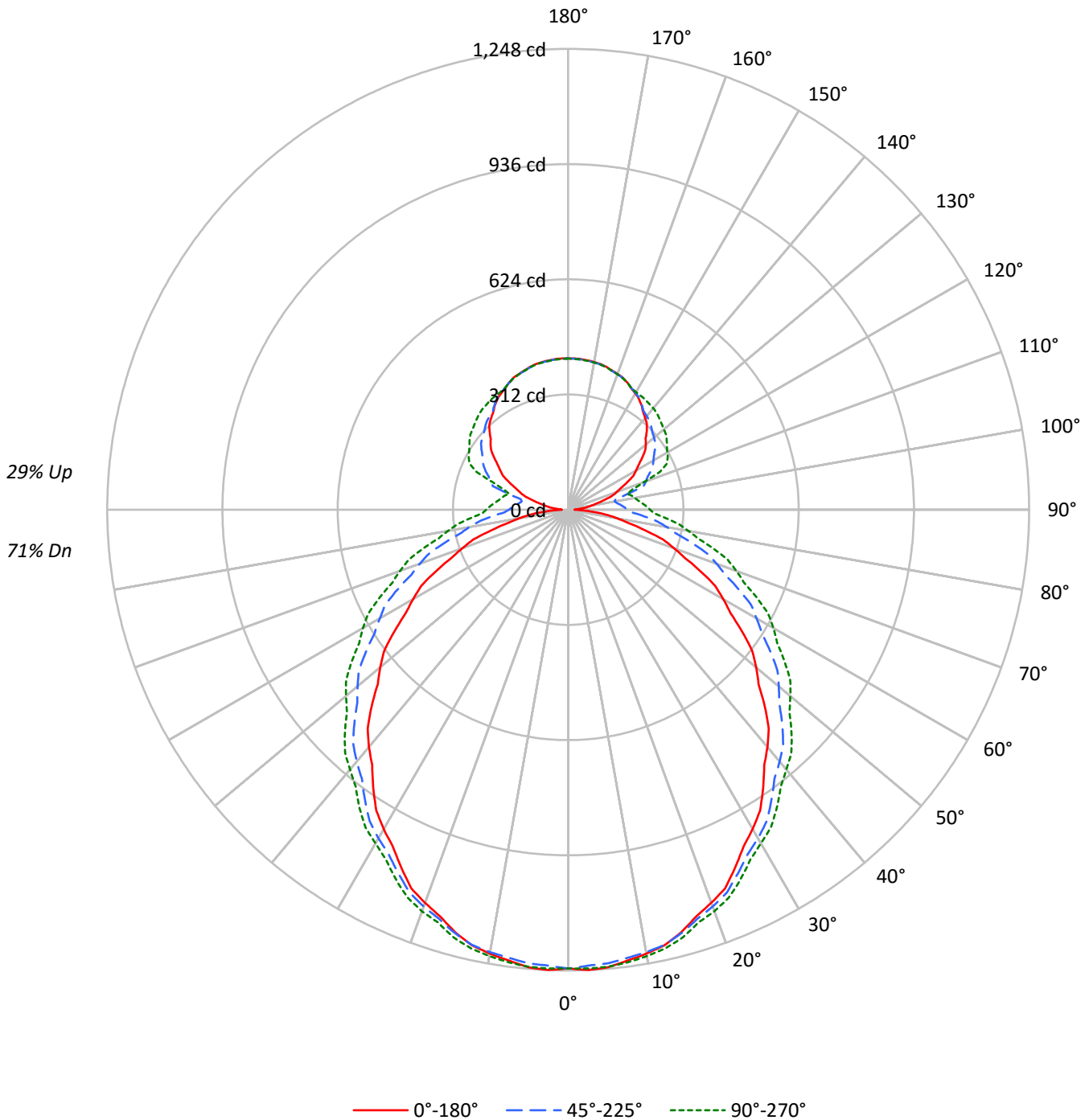
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332048-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-D

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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	75	75	75	75	75	75	71		
1	101	96	91	87	95	91	87	83	81	78	75	72	70	67	64	62	60	60	60	60	60	60	60	56		
2	91	83	76	70	86	78	72	67	70	65	61	63	59	55	55	52	50	50	50	50	50	50	50	46		
3	83	72	64	58	78	69	61	55	61	55	51	55	50	46	49	45	42	42	42	42	42	42	42	38		
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	36	36	36	36	36	36	32		
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	34	31	31	31	31	31	31	31	28		
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	27	27	27	27	27	27	24		
7	59	46	38	32	56	44	36	30	40	33	28	36	30	26	32	27	24	24	24	24	24	24	24	21		
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	21	21	21	21	21	21	19		
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	19	19	19	19	19	19	17		
10	48	35	28	22	45	34	27	22	31	25	20	28	23	19	25	21	17	17	17	17	17	17	17	16		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	2.2
10°-20°	335.7	6.2
20°-30°	502.2	9.3
30°-40°	599.7	11.1
40°-50°	627.4	11.6
50°-60°	588.8	10.9
60°-70°	491.8	9.1
70°-80°	351.8	6.5
80°-90°	211.0	3.9
90°-100°	146.5	2.7
100°-110°	167.7	3.1
110°-120°	235.1	4.3
120°-130°	254.0	4.7
130°-140°	248.5	4.6
140°-150°	220.4	4.1
150°-160°	175.0	3.2
160°-170°	112.9	2.1
170°-180°	38.9	0.7
0°-30°	955.7	17.6
0°-40°	1555.4	28.7
0°-60°	2771.6	51.1
0°-90°	3826.2	70.5
90°-120°	549.3	10.1
90°-150°	1272.1	23.4
90°-180°	1599.0	29.5
0°-180°	5425.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	18	88	160	206	222	13
95°	33	75	143	186	201	34
105°	102	137	168	154	165	107
115°	177	197	246	281	294	175
125°	244	248	287	315	326	218
135°	301	302	318	342	349	232
145°	346	347	347	358	364	216
155°	379	379	379	380	379	175
165°	400	399	399	401	399	113
175°	410	408	408	410	408	39
180°	410	410	410	410	410	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.1	51.1	66.3	81.4	96.5	111.8	127.3	142.8	158.3	173.9	184.2
90°	17.9	33.3	48.7	64.1	79.6	95.4	111.6	127.8	144.0	160.2	170.7
92.5°	22.1	35.3	48.4	61.5	74.6	89.0	104.8	120.5	136.3	152.1	162.5
95°	33.4	42.4	51.4	60.4	69.3	81.5	96.9	112.4	127.9	143.4	153.3
97.5°	50.5	59.9	69.2	78.6	87.9	97.2	106.4	115.6	124.8	134.1	143.5
100°	63.6	74.6	85.6	96.5	107.5	114.6	118.0	121.2	124.5	127.8	137.1
102.5°	78.6	88.3	97.8	107.5	117.1	123.0	125.0	127.1	129.2	131.3	138.1
105°	101.5	109.4	117.4	125.4	133.4	140.8	147.6	154.5	161.3	168.2	164.6
107.5°	124.3	131.0	137.8	144.6	151.3	161.3	174.4	187.7	201.0	214.1	213.4
110°	139.6	145.5	151.4	157.4	163.4	172.7	185.5	198.3	211.0	223.9	229.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.2	160.1	165.0	170.0	174.9	183.5	195.8	208.1	220.4	232.6	240.3
115°	176.8	180.9	184.9	188.9	192.9	200.6	212.1	223.5	235.0	246.3	254.3
117.5°	198.9	201.6	204.3	207.1	209.8	216.4	226.9	237.4	247.9	258.3	266.0
120°	211.7	213.8	215.9	218.0	220.2	226.3	236.4	246.5	256.7	266.7	274.2
122.5°	225.8	227.1	228.3	229.6	230.9	236.4	246.2	255.8	265.5	275.3	282.3
125°	243.8	244.4	244.9	245.5	246.0	250.7	259.8	268.7	277.8	286.7	293.2
127.5°	262.5	262.8	263.0	263.3	263.6	267.4	274.9	282.5	290.1	297.6	303.8
130°	274.2	274.5	274.7	274.9	275.2	278.4	284.7	291.0	297.3	303.6	309.6
132.5°	284.4	284.8	285.3	285.8	286.3	289.0	294.0	299.1	304.1	309.1	314.9
135°	301.2	301.3	301.4	301.5	301.6	303.4	307.0	310.6	314.2	317.8	323.4
137.5°	315.5	315.8	316.1	316.3	316.6	317.7	319.8	321.8	323.8	325.8	330.9
140°	324.2	324.6	324.9	325.4	325.8	326.6	327.6	328.7	329.8	331.0	335.7
142.5°	333.2	333.3	333.5	333.6	333.8	334.1	334.5	334.8	335.3	335.6	339.9
145°	345.8	345.9	346.1	346.3	346.5	346.6	346.7	346.9	347.0	347.2	349.7
147.5°	356.3	356.6	356.9	357.2	357.5	357.7	357.9	358.0	358.2	358.3	359.1
150°	363.6	363.8	363.9	364.2	364.4	364.5	364.7	364.8	365.0	365.1	365.2
152.5°	370.1	370.2	370.3	370.4	370.5	370.7	370.7	370.7	370.8	370.9	371.2
155°	379.4	379.3	379.1	379.0	378.8	378.8	378.9	378.9	379.0	379.1	379.4
157.5°	386.6	386.6	386.6	386.5	386.5	386.5	386.4	386.3	386.2	386.2	386.6
160°	391.0	390.9	390.8	390.7	390.7	390.6	390.5	390.5	390.5	390.4	390.7
162.5°	395.1	394.9	394.8	394.6	394.4	394.3	394.2	394.2	394.1	394.0	394.4
165°	400.1	399.8	399.7	399.5	399.2	399.2	399.1	399.0	398.9	398.9	399.4
167.5°	404.0	403.7	403.5	403.2	402.9	402.8	402.8	402.8	402.8	402.8	403.3
170°	406.1	405.9	405.6	405.4	405.1	404.9	404.9	404.9	404.9	404.9	405.5
172.5°	407.6	407.3	407.0	406.7	406.3	406.2	406.2	406.3	406.4	406.4	407.0
175°	409.5	409.1	408.8	408.5	408.2	408.0	408.1	408.2	408.2	408.3	408.8
177.5°	410.0	409.7	409.5	409.2	408.9	408.8	408.9	408.9	409.0	409.1	409.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	194.4	204.7	215.0	221.6	224.7	227.7	230.7	233.8
90°	181.2	191.7	202.2	209.1	212.2	215.3	218.4	221.6
92.5°	172.9	183.3	193.7	200.4	203.2	206.0	208.9	211.7
95°	163.0	172.8	182.6	189.0	192.0	195.0	198.0	201.0
97.5°	153.1	162.6	172.0	178.3	181.4	184.5	187.6	190.6
100°	146.3	155.6	164.9	171.0	174.1	177.2	180.2	183.3
102.5°	144.9	151.7	158.5	163.4	166.6	169.7	172.8	176.0
105°	161.0	157.5	153.9	153.6	156.4	159.3	162.1	165.0
107.5°	212.8	212.0	211.3	207.8	201.4	195.0	188.6	182.3
110°	235.1	240.6	246.2	245.4	238.1	230.8	223.6	216.3



TEST NUMBER: P332048-935

CATALOG NUMBER: S123DIP-S1165D365U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	247.9	255.5	263.1	267.3	267.9	268.5	269.1	269.7
115°	262.2	270.1	277.9	283.3	285.9	288.6	291.3	293.9
117.5°	273.7	281.4	289.1	294.2	296.5	298.9	301.4	303.8
120°	281.7	289.1	296.6	301.4	303.5	305.6	307.7	309.8
122.5°	289.4	296.4	303.4	308.1	310.2	312.4	314.5	316.7
125°	299.6	306.1	312.5	316.8	319.1	321.3	323.6	325.8
127.5°	310.0	316.1	322.3	326.3	328.2	330.1	332.0	334.0
130°	315.6	321.6	327.5	331.4	333.0	334.7	336.4	338.0
132.5°	320.6	326.4	332.1	335.9	337.8	339.7	341.5	343.4
135°	329.0	334.6	340.2	343.7	345.0	346.3	347.6	348.9
137.5°	336.0	341.0	346.1	349.3	350.7	352.1	353.4	354.8
140°	340.5	345.3	350.1	353.2	354.6	355.9	357.2	358.6
142.5°	344.1	348.4	352.7	355.4	356.7	358.0	359.4	360.7
145°	352.2	354.7	357.3	359.2	360.4	361.6	362.8	364.0
147.5°	360.0	360.8	361.7	362.6	363.3	364.0	364.8	365.6
150°	365.4	365.5	365.7	365.9	366.3	366.7	367.1	367.5
152.5°	371.4	371.7	372.0	372.0	371.8	371.5	371.3	371.2
155°	379.8	380.1	380.5	380.4	380.0	379.6	379.2	378.8
157.5°	387.0	387.4	387.9	387.8	387.3	386.8	386.2	385.6
160°	391.2	391.6	392.0	391.9	391.5	391.0	390.5	390.0
162.5°	394.9	395.4	395.8	395.9	395.5	395.0	394.6	394.2
165°	399.9	400.5	401.1	401.1	400.6	400.1	399.7	399.2
167.5°	403.8	404.4	404.9	404.9	404.4	403.8	403.3	402.8
170°	406.0	406.6	407.1	407.1	406.6	406.0	405.5	404.9
172.5°	407.5	408.0	408.5	408.5	407.9	407.3	406.7	406.1
175°	409.2	409.7	410.2	410.2	409.7	409.1	408.5	408.0
177.5°	409.9	410.4	410.8	410.7	410.2	409.7	409.1	408.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

(END OF REPORT)