

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: P332059-935

Luminaire Tested: **S123DIP-S1165D585U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332059-935  
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-S1165D585U935-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6002.2 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

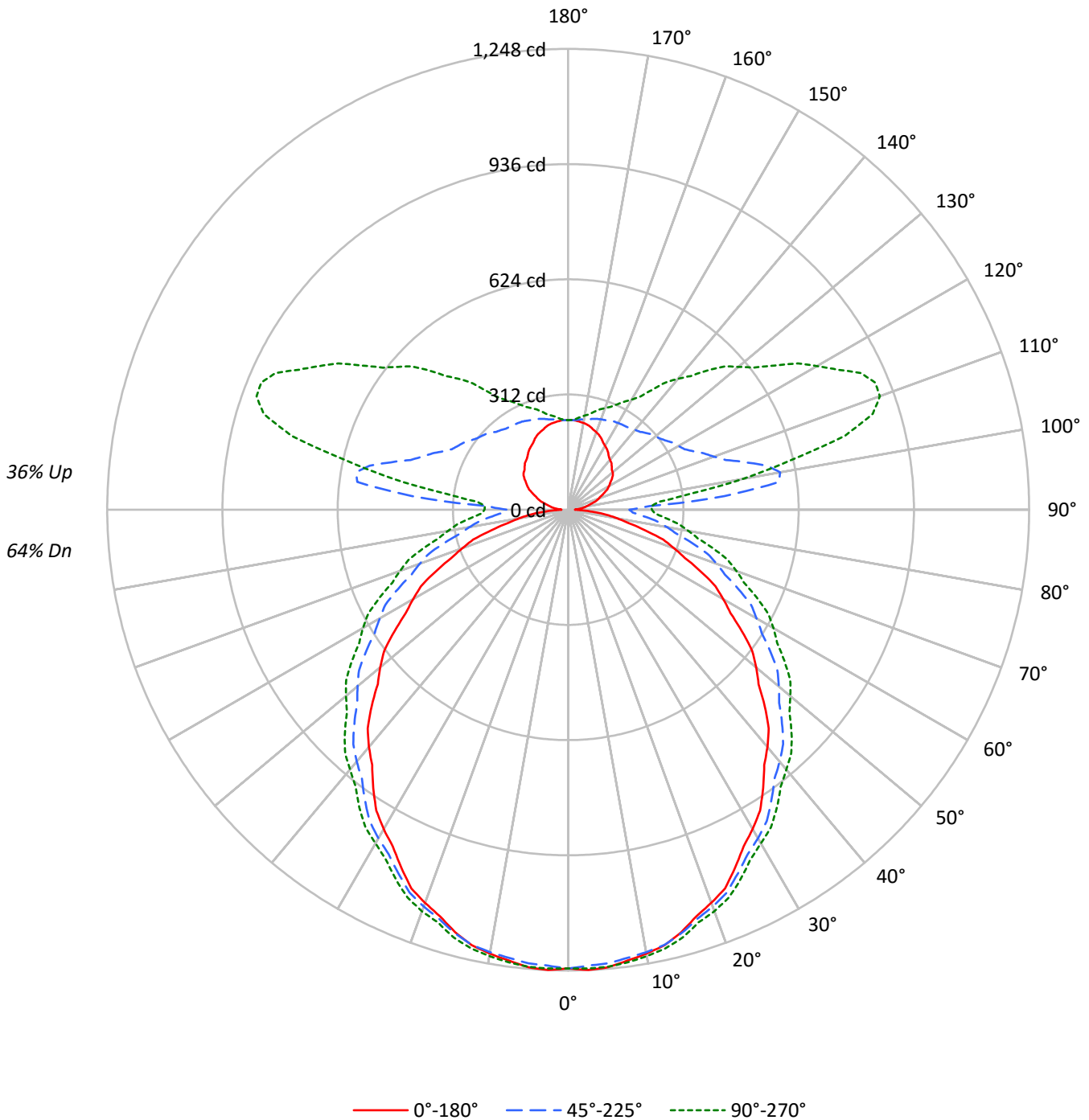
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69
1	100	95	90	86	93	89	85	81	78	75	72	68	66	63	59	57	55
2	90	82	75	69	84	77	71	66	67	63	59	59	55	52	51	48	46
3	82	72	63	57	76	67	60	54	59	53	49	52	47	43	45	41	38
4	75	63	55	48	70	59	52	46	52	46	41	46	41	37	40	36	33
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	36	32	28
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25
7	58	45	37	31	55	43	35	30	38	32	27	34	28	24	29	25	22
8	54	41	33	27	51	39	32	26	35	28	24	31	26	22	27	23	20
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	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	2.0
10°-20°	335.7	5.6
20°-30°	502.2	8.4
30°-40°	599.7	10.0
40°-50°	627.4	10.5
50°-60°	588.8	9.8
60°-70°	491.8	8.2
70°-80°	351.8	5.9
80°-90°	211.7	3.5
90°-100°	266.7	4.4
100°-110°	479.0	8.0
110°-120°	440.7	7.3
120°-130°	336.9	5.6
130°-140°	253.1	4.2
140°-150°	180.1	3.0
150°-160°	123.1	2.1
160°-170°	72.3	1.2
170°-180°	23.5	0.4
0°-30°	955.7	15.9
0°-40°	1555.4	25.9
0°-60°	2771.6	46.2
0°-90°	3826.9	63.8
90°-120°	1186.4	19.8
90°-150°	1956.4	32.6
90°-180°	2175.0	36.2
0°-180°	6002.2	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°	19	90	165	211	227	13
95°	32	123	425	259	246	30
105°	68	129	496	828	776	71
115°	108	150	374	765	875	107
125°	144	171	325	581	680	128
135°	167	198	294	460	533	129
145°	188	214	274	356	396	118
155°	213	229	266	302	315	98
165°	232	239	254	270	274	65
175°	242	242	244	248	247	23
180°	243	243	243	243	243	



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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°	36.2	51.4	66.6	81.8	97.0	112.4	127.9	143.6	159.3	174.9	185.0
90°	18.6	34.3	50.0	66.2	82.0	98.0	114.8	131.6	148.4	165.2	175.0
92.5°	22.6	38.8	56.2	73.4	90.8	112.3	140.3	176.4	212.2	219.8	211.2
95°	31.6	44.8	61.9	82.0	106.5	138.9	195.4	283.3	378.6	425.2	379.5
97.5°	41.8	52.9	67.7	85.5	108.7	141.7	195.6	292.2	440.6	575.6	616.0
100°	48.6	58.6	71.7	88.2	109.6	140.5	188.7	275.3	418.2	582.8	688.3
102.5°	55.7	65.3	77.0	92.1	111.3	140.1	184.5	259.8	388.4	550.8	685.4
105°	67.8	76.5	86.6	99.8	116.3	141.6	181.1	244.6	350.3	496.4	645.8
107.5°	79.3	87.0	95.9	107.9	122.7	146.1	181.6	235.9	323.0	447.4	583.4
110°	87.6	94.5	102.5	113.2	127.0	149.5	183.7	233.0	310.8	419.6	544.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	96.3	102.3	109.2	119.0	131.8	153.2	185.2	231.4	300.8	398.1	509.4
115°	107.5	113.0	119.6	128.1	140.1	160.5	190.0	230.8	291.7	373.8	465.9
117.5°	119.7	124.2	128.8	135.5	147.1	165.6	194.2	231.1	283.8	354.8	435.5
120°	127.2	130.2	134.1	140.5	151.4	169.4	197.0	232.5	280.2	345.1	418.8
122.5°	134.7	136.9	140.2	146.3	155.9	174.2	200.9	233.8	278.0	336.9	404.2
125°	144.0	145.0	147.9	153.3	162.6	180.3	206.2	236.5	274.7	325.2	384.1
127.5°	152.1	153.3	156.7	161.9	171.9	188.6	212.4	239.1	272.9	315.3	365.3
130°	157.3	158.4	162.6	168.2	178.1	194.3	216.5	241.2	271.7	308.8	354.2
132.5°	160.1	162.0	166.7	173.7	183.9	199.2	219.8	242.9	269.9	302.9	343.5
135°	166.7	168.4	173.5	180.6	190.5	205.3	223.9	243.8	266.8	294.2	328.6
137.5°	173.0	174.8	179.9	187.4	197.4	210.5	227.0	244.8	264.2	286.6	315.6
140°	176.2	178.7	183.6	191.4	201.2	214.0	229.1	244.7	262.3	281.9	307.5
142.5°	180.9	182.7	187.8	194.6	204.2	215.7	229.7	244.2	259.9	276.8	299.5
145°	188.5	189.6	193.7	200.8	208.9	220.0	232.8	246.1	259.8	274.5	292.7
147.5°	194.8	195.6	200.0	206.4	214.4	224.0	235.7	247.6	259.8	272.7	286.8
150°	199.8	200.4	204.3	210.7	217.6	226.4	237.7	248.0	259.8	271.0	283.4
152.5°	205.0	205.1	209.1	214.6	220.7	229.1	238.8	248.8	258.6	269.1	280.3
155°	212.7	212.7	215.6	220.5	225.9	232.8	241.2	249.0	257.4	265.7	275.5
157.5°	218.7	219.1	221.4	225.8	230.4	235.7	242.4	249.5	255.6	262.6	270.2
160°	223.4	223.4	225.4	229.4	232.8	237.7	243.6	249.5	254.9	260.3	266.7
162.5°	227.0	227.0	228.6	231.7	234.7	238.8	244.0	249.1	253.3	258.0	263.1
165°	232.3	231.8	232.8	235.2	237.2	240.6	244.5	248.0	251.0	254.4	258.3
167.5°	236.3	235.7	236.2	238.1	239.4	241.6	244.4	247.2	248.6	250.8	253.7
170°	238.7	237.7	238.2	239.6	240.6	241.6	244.1	246.1	247.0	248.5	251.0
172.5°	240.2	239.6	239.8	240.8	241.4	242.0	244.1	245.6	245.8	246.5	248.2
175°	242.1	241.6	241.2	242.1	242.1	242.6	243.6	244.5	244.1	244.1	245.0
177.5°	243.0	242.6	242.2	242.6	242.6	242.6	243.0	243.7	243.0	242.6	243.0
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6



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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°	195.4	205.7	215.9	222.8	225.7	228.8	232.0	234.8
90°	185.6	196.4	207.1	214.7	217.2	220.7	224.2	226.7
92.5°	205.6	207.1	213.2	217.0	218.9	220.2	223.4	225.3
95°	329.4	281.8	265.1	253.6	247.3	245.8	245.4	246.4
97.5°	582.9	504.1	449.7	397.0	363.8	344.7	334.4	333.2
100°	714.2	683.1	634.4	570.5	523.9	491.1	474.9	478.5
102.5°	753.2	760.3	735.4	696.9	661.3	635.9	622.9	614.7
105°	756.7	814.3	832.1	824.8	804.9	789.0	776.0	776.3
107.5°	707.9	795.7	846.8	869.6	872.6	869.0	866.3	864.4
110°	665.0	763.2	832.9	872.5	888.6	894.9	896.3	897.8





TEST NUMBER: P332059-935

CATALOG NUMBER: S123DIP-S1165D585U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	621.6	721.4	798.3	847.7	875.5	890.3	896.6	899.5
115°	564.0	656.7	736.1	794.4	833.6	857.6	869.9	874.8
117.5°	519.4	600.3	672.3	731.3	772.1	799.2	815.6	821.3
120°	495.0	568.2	634.0	688.2	729.1	758.6	772.6	777.6
122.5°	474.6	541.2	602.5	653.0	689.6	716.4	731.5	737.4
125°	446.3	506.2	559.6	603.1	636.7	660.4	674.8	680.4
127.5°	420.6	474.3	522.8	562.6	592.6	613.1	626.2	631.5
130°	404.2	454.0	499.6	536.7	564.5	584.0	596.2	601.8
132.5°	388.4	434.5	477.1	512.6	539.2	558.9	570.1	574.8
135°	366.9	407.2	444.5	476.0	501.5	517.8	528.1	533.0
137.5°	347.0	380.3	412.6	440.0	461.8	478.1	487.2	490.9
140°	335.1	364.7	392.8	416.9	437.0	452.3	461.7	462.7
142.5°	323.1	348.7	373.2	394.3	411.7	425.4	433.9	435.0
145°	310.7	329.3	347.5	363.5	377.0	388.6	393.6	395.9
147.5°	300.8	314.4	327.8	338.8	349.2	357.3	362.1	363.6
150°	294.6	305.9	316.2	325.9	333.9	339.8	343.5	344.1
152.5°	290.3	300.1	309.2	317.0	323.0	328.0	329.9	330.0
155°	283.9	291.7	299.1	305.0	309.4	313.3	314.3	314.8
157.5°	277.0	283.5	289.3	293.9	297.7	300.7	301.4	301.4
160°	273.0	278.4	283.4	286.8	290.2	293.2	293.2	292.7
162.5°	268.4	272.9	277.5	280.5	282.8	285.3	285.3	284.8
165°	262.3	265.2	268.6	271.0	273.0	275.0	274.5	274.5
167.5°	256.9	259.2	261.1	262.9	263.8	265.2	264.7	264.7
170°	253.4	254.9	256.8	257.8	258.3	259.3	258.8	258.8
172.5°	250.3	251.3	252.9	253.5	253.6	254.6	253.7	253.3
175°	246.1	246.5	247.5	247.5	247.5	248.0	247.5	247.0
177.5°	243.4	243.7	244.2	244.2	243.7	244.2	243.4	243.4
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6

(END OF REPORT)