

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: P331283-930

Luminaire Tested: **S122DIP-S290D1080U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331283-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIP-S290D1080U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4122.4 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

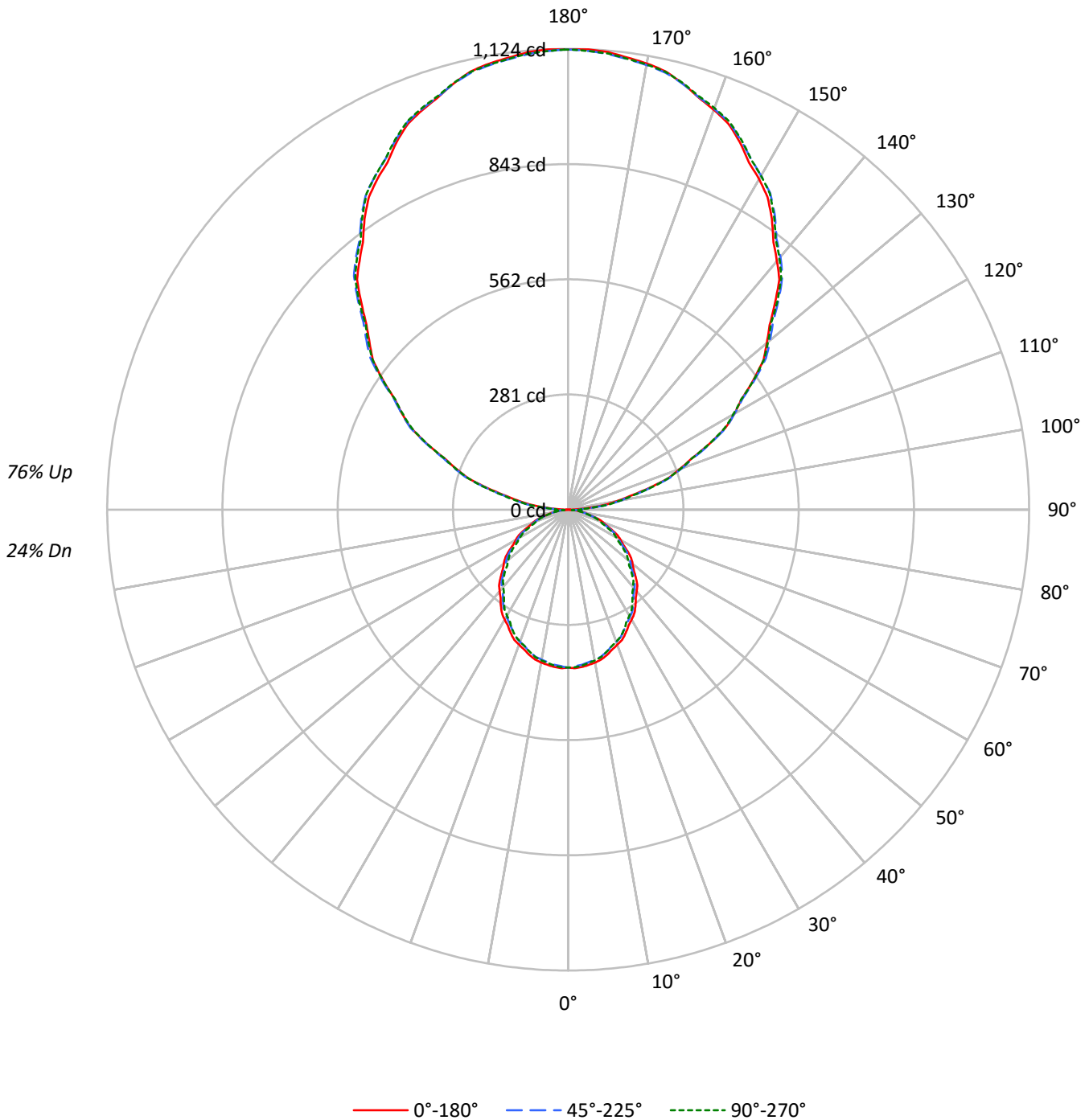
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331283-930

CATALOG NUMBER: S122DIP-S290D1080U930-4F0-1E-UDD-F1

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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	92	88	84	81	82	78	75	72	60	58	56	44	42	41	28	28	27	20
2	84	77	71	66	74	68	63	59	53	49	46	38	36	34	25	24	23	17
3	76	67	60	55	67	60	54	49	46	42	39	34	31	29	22	21	19	14
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	12
5	64	53	45	39	56	47	41	36	37	32	28	27	24	21	18	16	14	11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	9
7	54	42	35	29	48	38	31	27	30	25	21	22	19	16	15	13	11	8
8	50	38	31	26	44	34	28	23	27	22	19	20	17	14	13	11	10	7
9	46	35	28	23	41	31	25	21	25	20	17	18	15	13	12	10	9	7
10	43	32	25	20	38	29	23	18	23	18	15	17	14	12	11	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6218	6218	6218
5°	6242	6152	6190
10°	6205	6091	6120
15°	6128	6011	6006
20°	6019	5893	5887
25°	5911	5747	5747
30°	5774	5614	5565
35°	5643	5452	5373
40°	5480	5292	5191
45°	5318	5133	5005
50°	5144	4968	4793
55°	4963	4777	4597
60°	4760	4543	4379
65°	4542	4317	4118
70°	4263	4036	3843
75°	3880	3718	3624
80°	3440	3347	3171
85°	2816	2668	2408



TEST NUMBER: P331283-930

CATALOG NUMBER: S122DIP-S290D1080U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	0.9
10°-20°	101.9	2.5
20°-30°	149.8	3.6
30°-40°	174.0	4.2
40°-50°	173.8	4.2
50°-60°	151.6	3.7
60°-70°	112.1	2.7
70°-80°	63.5	1.5
80°-90°	21.5	0.5
90°-100°	71.1	1.7
100°-110°	220.9	5.4
110°-120°	377.5	9.2
120°-130°	496.5	12.0
130°-140°	557.2	13.5
140°-150°	546.4	13.3
150°-160°	458.3	11.1
160°-170°	304.0	7.4
170°-180°	106.2	2.6
0°-30°	287.9	7.0
0°-40°	461.9	11.2
0°-60°	787.3	19.1
0°-90°	984.4	23.9
90°-120°	669.5	16.2
90°-150°	2269.5	55.1
90°-180°	3138.0	76.1
0°-180°	4122.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	385	385	385	385	385	
5°	385	384	380	382	382	37
15°	367	364	360	361	359	103
25°	332	329	323	323	323	153
35°	286	282	277	274	273	179
45°	233	230	225	221	219	180
55°	176	174	170	165	163	158
65°	119	117	113	110	108	118
75°	62	61	60	58	58	66
85°	15	15	14	13	13	17
90°	1	13	33	31	32	3
95°	49	58	61	60	59	56
105°	204	206	208	210	210	215
115°	379	384	383	382	379	375
125°	551	559	557	554	553	492
135°	713	723	726	724	722	551
145°	866	872	878	879	875	541
155°	990	992	995	1000	997	455
165°	1077	1076	1076	1082	1078	304
175°	1120	1118	1116	1122	1117	106
180°	1122	1122	1122	1122	1122	



TEST NUMBER: P331283-930

CATALOG NUMBER: S122DIP-S290D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	386.9	386.6	386.3	386.0	385.6	385.1	384.4	383.7	382.9	382.2	382.9
5°	385.1	384.8	384.5	384.2	383.8	383.3	382.4	381.5	380.5	379.6	380.3
7.5°	381.8	381.2	380.7	380.3	379.8	379.0	378.1	377.2	376.3	375.4	376.0
10°	378.5	378.0	377.4	376.8	376.2	375.4	374.5	373.5	372.5	371.5	372.1
12.5°	374.1	373.6	373.1	372.5	372.0	371.3	370.3	369.3	368.4	367.4	367.8
15°	366.6	366.2	365.7	365.2	364.7	363.9	362.8	361.7	360.7	359.6	360.0
17.5°	357.2	356.7	356.2	355.7	355.2	354.4	353.4	352.2	351.1	350.1	350.4
20°	350.3	349.8	349.4	348.9	348.4	347.6	346.4	345.3	344.1	343.0	343.2
22.5°	343.6	342.8	342.2	341.4	340.8	339.9	338.8	337.7	336.6	335.6	335.6
25°	331.8	331.2	330.5	329.9	329.2	328.2	326.8	325.4	324.0	322.6	322.8
27.5°	318.5	318.0	317.3	316.7	316.2	315.3	314.2	313.1	312.0	310.9	310.6
30°	309.7	309.0	308.3	307.7	307.0	306.1	304.8	303.6	302.3	301.1	300.8
32.5°	300.1	299.6	299.1	298.6	298.1	297.1	295.8	294.6	293.3	292.0	291.5
35°	286.3	285.4	284.6	283.8	283.0	281.9	280.6	279.3	278.0	276.6	276.1
37.5°	270.7	269.9	269.2	268.5	267.7	266.8	265.5	264.2	262.8	261.5	260.9
40°	260.0	259.3	258.7	258.0	257.4	256.4	255.0	253.7	252.4	251.1	250.4
42.5°	249.6	249.0	248.3	247.7	247.0	246.0	244.7	243.4	242.1	240.8	239.9
45°	232.9	232.4	231.8	231.2	230.6	229.8	228.5	227.3	226.1	224.8	223.9
47.5°	216.4	215.8	215.3	214.7	214.2	213.3	212.0	210.8	209.5	208.1	207.2
50°	204.8	204.4	204.0	203.6	203.2	202.4	201.2	200.1	198.9	197.8	196.7
52.5°	193.6	193.0	192.5	191.9	191.4	190.5	189.5	188.4	187.3	186.2	185.2
55°	176.3	175.8	175.3	174.8	174.3	173.6	172.6	171.6	170.6	169.7	168.6
57.5°	159.0	158.6	158.2	157.8	157.4	156.6	155.6	154.5	153.4	152.3	151.3
60°	147.4	147.1	146.8	146.4	146.1	145.4	144.2	143.1	141.9	140.7	139.8
62.5°	136.2	135.6	135.1	134.6	134.0	133.3	132.4	131.6	130.7	129.8	128.9
65°	118.9	118.4	117.9	117.4	116.9	116.3	115.4	114.6	113.8	113.0	112.2
67.5°	101.3	100.9	100.5	100.1	99.8	99.2	98.4	97.7	96.9	96.2	95.6
70°	90.3	90.0	89.7	89.4	89.0	88.5	87.8	87.1	86.3	85.5	85.0
72.5°	79.1	78.8	78.4	78.1	77.8	77.4	76.9	76.5	76.0	75.5	74.9
75°	62.2	62.0	61.9	61.7	61.6	61.3	60.9	60.4	60.0	59.6	59.1
77.5°	47.1	46.8	46.6	46.3	46.0	45.7	45.6	45.4	45.2	45.1	44.8
80°	37.0	36.9	36.9	36.8	36.7	36.6	36.4	36.3	36.1	36.0	35.7
82.5°	27.6	27.6	27.6	27.5	27.5	27.4	27.3	27.2	27.1	27.1	26.7
85°	15.2	15.1	15.0	14.9	14.8	14.8	14.7	14.6	14.5	14.4	14.2
87.5°	5.5	5.9	6.3	6.6	7.0	7.6	8.4	9.2	9.9	10.8	10.5
90°	1.0	3.5	6.0	8.6	11.1	14.6	19.2	23.9	28.5	33.2	32.7
92.5°	16.9	18.7	20.5	22.4	24.3	25.8	26.8	28.0	29.0	30.1	30.2
95°	49.2	51.4	53.5	55.5	57.6	58.9	59.4	59.8	60.2	60.6	60.6
97.5°	90.0	91.8	93.7	95.6	97.3	98.7	99.5	100.3	101.1	101.9	101.9
100°	120.3	122.0	123.7	125.3	127.0	128.2	128.8	129.4	130.0	130.7	130.7
102.5°	152.1	153.4	154.8	156.1	157.5	158.6	159.4	160.1	160.9	161.8	161.9
105°	203.6	204.2	204.9	205.5	206.1	206.7	207.1	207.5	207.9	208.3	208.8
107.5°	255.5	256.4	257.4	258.3	259.2	259.7	259.7	259.7	259.7	259.7	259.8
110°	288.9	290.1	291.4	292.6	293.9	294.6	294.6	294.6	294.6	294.6	294.6



TEST NUMBER: P331283-930

CATALOG NUMBER: S122DIP-S290D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	325.2	326.4	327.8	329.0	330.3	330.8	330.6	330.4	330.3	330.1	329.6
115°	378.8	380.1	381.3	382.6	383.8	384.3	383.8	383.4	383.0	382.6	382.4
117.5°	432.2	433.9	435.6	437.2	439.0	439.2	438.1	436.8	435.7	434.5	434.0
120°	467.8	469.5	471.2	472.9	474.6	474.6	472.9	471.2	469.5	467.8	467.8
122.5°	500.4	502.5	504.4	506.5	508.5	508.9	507.8	506.5	505.4	504.2	503.7
125°	551.1	553.1	555.0	556.8	558.7	559.4	558.7	558.2	557.5	556.8	556.2
127.5°	600.6	603.0	605.4	607.8	610.2	611.1	610.3	609.5	608.8	608.0	607.2
130°	631.7	634.4	637.2	639.8	642.6	643.8	643.4	642.9	642.5	642.1	641.6
132.5°	666.5	668.8	671.0	673.2	675.5	676.6	676.7	676.8	676.9	676.9	676.0
135°	713.1	715.4	717.8	720.1	722.4	723.7	724.1	724.6	725.0	725.5	725.2
137.5°	762.1	764.1	766.0	767.8	769.7	770.9	771.5	772.1	772.6	773.1	773.0
140°	791.7	793.6	795.5	797.4	799.3	800.8	801.8	802.9	804.0	804.9	804.9
142.5°	822.1	823.9	825.8	827.7	829.6	830.9	831.6	832.3	833.1	833.8	834.0
145°	865.6	867.1	868.5	870.0	871.5	872.9	874.1	875.4	876.6	877.9	878.1
147.5°	904.4	906.2	907.9	909.7	911.5	912.8	913.6	914.5	915.3	916.2	916.6
150°	930.9	932.2	933.4	934.7	936.0	937.0	937.9	938.7	939.6	940.4	941.0
152.5°	954.4	955.7	956.9	958.2	959.4	960.6	961.6	962.6	963.7	964.7	965.5
155°	989.7	990.3	990.9	991.6	992.2	992.8	993.4	994.1	994.7	995.3	996.4
157.5°	1019.8	1020.2	1020.6	1021.0	1021.5	1021.8	1022.2	1022.6	1023.0	1023.4	1024.8
160°	1038.0	1038.4	1038.8	1039.2	1039.7	1039.9	1040.2	1040.4	1040.6	1040.8	1042.0
162.5°	1054.6	1054.7	1054.8	1054.8	1055.0	1055.1	1055.3	1055.5	1055.7	1056.0	1057.4
165°	1076.8	1076.6	1076.4	1076.1	1076.0	1075.9	1075.9	1075.9	1075.9	1075.9	1077.3
167.5°	1095.4	1094.7	1094.1	1093.5	1092.8	1092.5	1092.4	1092.4	1092.3	1092.3	1093.8
170°	1105.2	1104.6	1103.9	1103.3	1102.7	1102.3	1102.0	1101.8	1101.6	1101.4	1102.9
172.5°	1112.0	1111.4	1110.8	1110.1	1109.5	1109.1	1108.9	1108.6	1108.4	1108.2	1109.7
175°	1120.4	1119.7	1119.1	1118.4	1117.9	1117.3	1116.9	1116.5	1116.1	1115.6	1117.1
177.5°	1123.7	1123.2	1122.7	1122.3	1121.8	1121.3	1121.0	1120.6	1120.3	1120.0	1121.0
180°	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3



TEST NUMBER: P331283-930

CATALOG NUMBER: S122DIP-S290D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	383.5	384.2	384.8	385.1	385.0	384.8	384.7	384.6
5°	381.0	381.6	382.3	382.5	382.4	382.2	382.0	381.9
7.5°	376.7	377.3	378.0	378.2	378.1	377.8	377.6	377.5
10°	372.8	373.5	374.1	374.3	374.1	373.8	373.6	373.3
12.5°	368.3	368.7	369.2	369.3	369.2	368.9	368.8	368.6
15°	360.3	360.6	360.9	360.9	360.5	360.1	359.7	359.3
17.5°	350.8	351.2	351.6	351.6	351.1	350.8	350.4	350.0
20°	343.5	343.7	344.0	343.9	343.6	343.2	342.9	342.6
22.5°	335.7	335.7	335.7	335.7	335.5	335.3	335.1	334.9
25°	322.9	323.1	323.3	323.3	323.1	322.9	322.8	322.6
27.5°	310.4	310.1	309.9	309.6	309.2	308.8	308.4	308.0
30°	300.6	300.4	300.1	299.9	299.5	299.2	298.9	298.5
32.5°	291.1	290.6	290.2	289.8	289.4	289.1	288.8	288.5
35°	275.7	275.2	274.7	274.3	273.9	273.5	273.0	272.6
37.5°	260.2	259.7	259.0	258.5	258.1	257.7	257.4	257.0
40°	249.6	248.9	248.2	247.6	247.3	247.0	246.6	246.3
42.5°	239.1	238.3	237.5	236.8	236.4	235.9	235.5	235.1
45°	223.0	222.1	221.2	220.5	220.2	219.9	219.6	219.2
47.5°	206.3	205.3	204.3	203.6	203.2	202.7	202.2	201.7
50°	195.5	194.3	193.1	192.4	192.0	191.6	191.2	190.8
52.5°	184.3	183.4	182.4	181.6	181.1	180.6	180.0	179.4
55°	167.6	166.6	165.7	165.0	164.6	164.1	163.7	163.3
57.5°	150.3	149.4	148.4	147.7	147.5	147.2	146.8	146.5
60°	138.9	138.0	137.1	136.6	136.3	136.1	135.8	135.6
62.5°	128.1	127.3	126.5	125.9	125.6	125.2	124.9	124.6
65°	111.5	110.7	110.0	109.4	109.0	108.6	108.2	107.8
67.5°	95.1	94.5	93.9	93.4	93.1	92.8	92.5	92.1
70°	84.4	83.8	83.2	82.8	82.5	82.1	81.8	81.4
72.5°	74.4	73.8	73.2	72.7	72.5	72.2	72.0	71.7
75°	58.6	58.1	57.6	57.5	57.6	57.8	58.0	58.1
77.5°	44.6	44.4	44.1	43.9	43.6	43.5	43.2	43.0
80°	35.5	35.2	35.0	34.7	34.6	34.4	34.2	34.1
82.5°	26.4	26.1	25.8	25.6	25.6	25.5	25.5	25.5
85°	13.9	13.7	13.5	13.3	13.2	13.1	13.0	13.0
87.5°	10.2	9.9	9.6	9.5	9.5	9.5	9.5	9.4
90°	32.3	31.9	31.5	31.4	31.6	31.8	32.0	32.2
92.5°	30.2	30.3	30.5	30.5	30.6	30.6	30.7	30.7
95°	60.6	60.6	60.6	60.4	60.0	59.6	59.1	58.7
97.5°	101.9	101.9	101.9	101.9	101.8	101.8	101.7	101.7
100°	130.7	130.7	130.7	130.6	130.4	130.2	130.0	129.7
102.5°	162.1	162.2	162.4	162.4	162.2	162.0	161.8	161.6
105°	209.2	209.6	210.0	210.3	210.3	210.3	210.3	210.3
107.5°	260.0	260.2	260.3	259.9	259.0	258.0	257.1	256.1
110°	294.6	294.6	294.6	294.2	293.6	292.9	292.3	291.7



TEST NUMBER: P331283-930

CATALOG NUMBER: S122DIP-S290D1080U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	329.1	328.6	328.2	327.7	327.2	326.7	326.3	325.8
115°	382.2	382.0	381.7	381.3	380.7	380.1	379.4	378.8
117.5°	433.5	433.0	432.5	431.9	431.3	430.6	430.0	429.4
120°	467.8	467.8	467.8	467.5	466.9	466.3	465.6	465.0
122.5°	503.2	502.7	502.1	501.7	501.2	500.8	500.3	499.9
125°	555.6	555.0	554.3	553.9	553.7	553.5	553.3	553.1
127.5°	606.5	605.7	605.0	604.2	603.6	602.9	602.3	601.5
130°	641.2	640.8	640.4	639.8	639.0	638.1	637.2	636.4
132.5°	675.1	674.2	673.3	672.5	671.8	671.1	670.4	669.8
135°	725.0	724.8	724.6	724.1	723.5	722.9	722.3	721.6
137.5°	772.8	772.7	772.5	772.0	771.1	770.3	769.5	768.6
140°	804.9	804.9	804.9	804.5	803.7	802.9	802.0	801.2
142.5°	834.1	834.3	834.5	834.1	833.2	832.4	831.6	830.7
145°	878.3	878.6	878.7	878.4	877.6	876.8	875.9	875.1
147.5°	917.1	917.5	918.0	917.9	917.0	916.2	915.4	914.7
150°	941.7	942.3	943.0	943.0	942.3	941.7	941.0	940.4
152.5°	966.3	967.0	967.8	967.8	967.0	966.3	965.5	964.7
155°	997.4	998.5	999.6	999.7	999.1	998.5	997.8	997.2
157.5°	1026.2	1027.7	1029.1	1029.3	1028.3	1027.3	1026.3	1025.2
160°	1043.3	1044.6	1045.9	1046.0	1045.2	1044.4	1043.5	1042.7
162.5°	1058.8	1060.2	1061.7	1061.8	1060.9	1059.9	1058.8	1057.9
165°	1078.8	1080.3	1081.7	1081.9	1080.9	1079.9	1078.8	1077.7
167.5°	1095.3	1096.7	1098.2	1098.4	1097.3	1096.2	1095.1	1094.1
170°	1104.3	1105.8	1107.3	1107.4	1106.1	1104.9	1103.6	1102.4
172.5°	1111.2	1112.6	1114.1	1114.2	1113.0	1111.7	1110.4	1109.1
175°	1118.6	1120.1	1121.5	1121.6	1120.4	1119.1	1117.9	1116.6
177.5°	1122.0	1123.0	1124.0	1124.0	1123.0	1122.0	1121.0	1120.0
180°	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3

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