

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: P331486-940

Luminaire Tested: **S122DIW-S290D1240U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331486-940
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: S122DIW-S290D1240U940-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4902.9 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

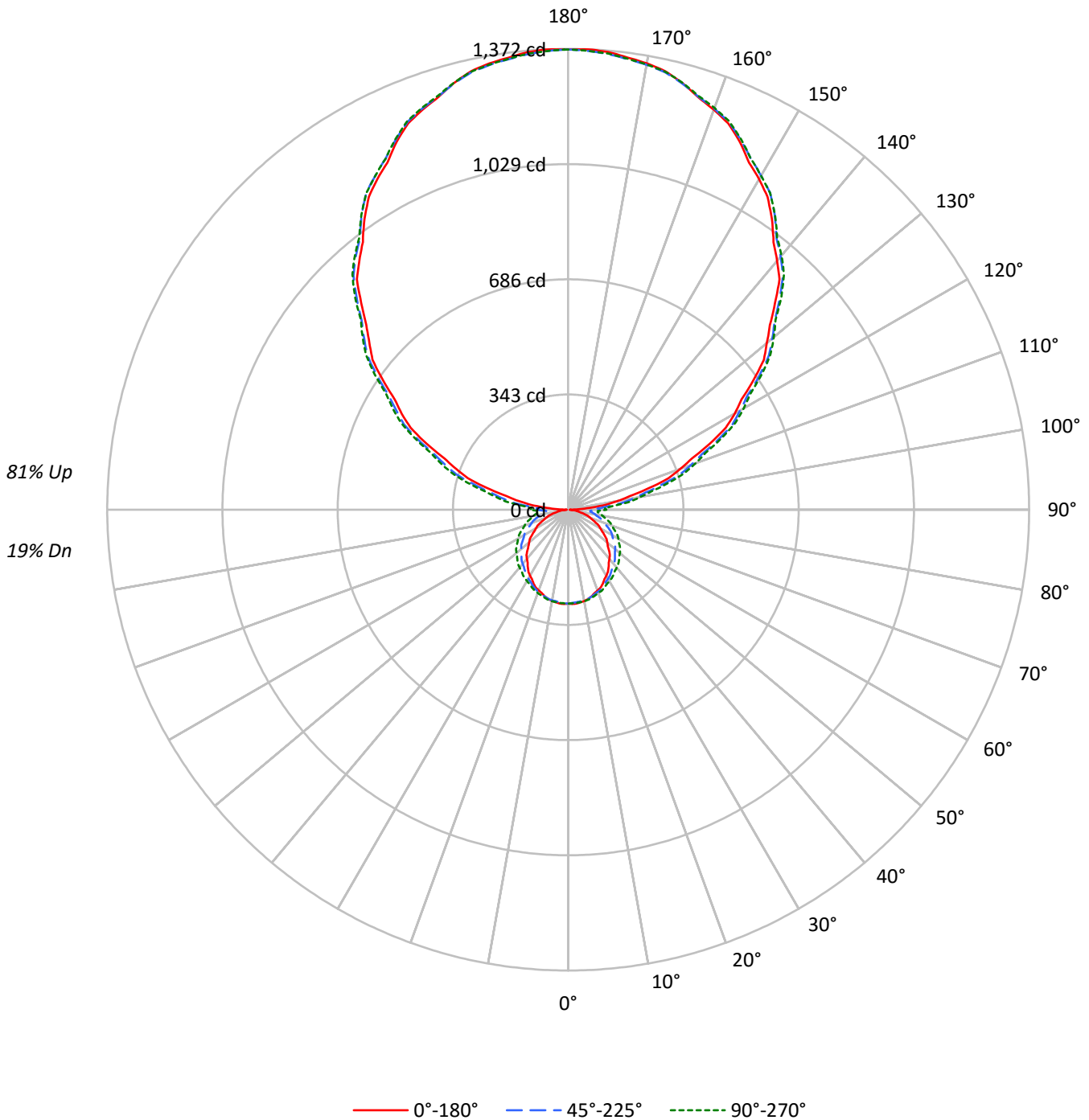
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	90	86	82	78	79	76	73	70	57	55	53	40	38	37	24	23	22	15
2	82	75	69	63	72	66	61	57	50	46	43	34	32	31	21	19	18	12
3	75	65	58	52	65	58	52	47	43	39	36	30	28	25	18	17	15	10
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	14	13	8
5	62	51	43	37	55	45	38	33	34	29	26	24	21	18	14	13	11	7
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10	6
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	12	10	9	6
8	49	37	29	24	43	33	26	22	25	20	17	18	14	12	11	9	8	5
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7	4
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.5	0.5
10°-20°	75.9	1.5
20°-30°	115.1	2.3
30°-40°	140.2	2.9
40°-50°	150.8	3.1
50°-60°	146.5	3.0
60°-70°	127.9	2.6
70°-80°	98.4	2.0
80°-90°	71.5	1.5
90°-100°	132.3	2.7
100°-110°	302.9	6.2
110°-120°	482.9	9.8
120°-130°	618.4	12.6
130°-140°	685.4	14.0
140°-150°	667.9	13.6
150°-160°	559.5	11.4
160°-170°	371.1	7.6
170°-180°	129.7	2.6
0°-30°	217.5	4.4
0°-40°	357.7	7.3
0°-60°	654.9	13.4
0°-90°	952.8	19.4
90°-120°	918.1	18.7
90°-150°	2889.8	58.9
90°-180°	3950.0	80.6
0°-180°	4902.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	5	43	94	107	114	6
95°	63	94	121	135	138	72
105°	251	266	289	305	310	265
115°	464	476	491	502	503	459
125°	674	684	694	701	704	602
135°	871	883	890	897	897	673
145°	1057	1065	1072	1075	1073	660
155°	1208	1212	1215	1220	1218	556
165°	1315	1314	1314	1321	1316	371
175°	1368	1364	1362	1369	1363	130
180°	1370	1370	1370	1370	1370	



TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.2	14.2	20.2	26.1	32.1	38.5	45.4	52.3	59.2	66.1	69.6
90°	5.2	13.6	21.8	30.1	38.4	48.2	59.7	71.1	82.5	93.9	97.0
92.5°	24.3	31.4	38.5	45.7	52.8	59.8	66.7	73.6	80.4	87.3	91.0
95°	63.4	70.2	77.0	83.7	90.6	96.9	102.8	108.8	114.7	120.6	124.0
97.5°	112.7	118.7	124.8	130.7	136.8	142.9	149.0	155.2	161.3	167.6	170.9
100°	149.7	155.1	160.4	165.9	171.2	176.8	182.6	188.4	194.2	200.1	203.4
102.5°	188.2	192.9	197.6	202.2	207.0	212.2	218.1	224.0	229.9	235.8	239.2
105°	250.6	254.0	257.3	260.7	264.1	268.4	273.7	278.8	284.0	289.2	292.8
107.5°	313.9	317.1	320.3	323.5	326.8	330.6	335.1	339.6	344.1	348.6	351.8
110°	354.3	357.6	361.0	364.3	367.7	371.5	375.9	380.3	384.8	389.1	392.0



TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	398.7	401.7	404.7	407.9	410.9	414.4	418.4	422.4	426.4	430.3	432.7
115°	464.1	466.6	469.2	471.7	474.2	477.2	480.8	484.4	487.9	491.4	493.8
117.5°	529.0	531.6	534.3	537.0	539.8	542.2	544.6	546.9	549.1	551.4	553.5
120°	572.4	574.8	577.2	579.6	582.0	584.1	585.6	587.1	588.7	590.2	592.7
122.5°	612.2	614.7	617.4	620.0	622.6	624.9	626.9	628.7	630.7	632.7	634.5
125°	673.8	676.0	678.3	680.6	683.0	685.2	687.3	689.4	691.5	693.7	695.3
127.5°	734.1	736.9	739.8	742.6	745.5	747.6	748.9	750.4	751.8	753.1	754.5
130°	772.0	775.3	778.6	781.8	785.1	787.3	788.7	790.1	791.5	792.8	794.5
132.5°	814.6	817.2	819.8	822.4	825.1	827.2	828.8	830.4	831.9	833.5	834.4
135°	871.0	873.9	876.7	879.5	882.3	884.5	885.9	887.3	888.7	890.1	891.8
137.5°	930.9	933.3	935.5	937.8	940.1	941.8	942.9	944.0	944.9	946.0	947.5
140°	967.0	969.2	971.4	973.7	975.9	977.8	979.2	980.7	982.1	983.6	985.1
142.5°	1004.0	1006.2	1008.4	1010.7	1012.9	1014.5	1015.4	1016.3	1017.2	1018.1	1019.5
145°	1056.8	1058.6	1060.4	1062.2	1064.0	1065.7	1067.2	1068.7	1070.3	1071.8	1072.6
147.5°	1104.2	1106.3	1108.5	1110.7	1112.9	1114.5	1115.4	1116.5	1117.5	1118.6	1119.2
150°	1136.6	1138.1	1139.7	1141.2	1142.7	1144.1	1145.0	1146.1	1147.1	1148.2	1148.9
152.5°	1165.3	1166.8	1168.3	1169.8	1171.4	1172.8	1174.0	1175.3	1176.5	1177.8	1178.8
155°	1208.3	1209.1	1209.8	1210.6	1211.4	1212.1	1212.9	1213.6	1214.4	1215.2	1216.5
157.5°	1245.0	1245.5	1246.1	1246.6	1247.1	1247.6	1248.0	1248.5	1248.9	1249.5	1251.2
160°	1267.2	1267.7	1268.3	1268.8	1269.3	1269.7	1269.9	1270.2	1270.4	1270.7	1272.2
162.5°	1287.5	1287.7	1287.8	1287.9	1288.0	1288.2	1288.4	1288.7	1289.0	1289.2	1290.9
165°	1314.6	1314.4	1314.1	1313.8	1313.6	1313.5	1313.5	1313.5	1313.5	1313.5	1315.3
167.5°	1337.3	1336.5	1335.8	1335.0	1334.2	1333.8	1333.7	1333.7	1333.6	1333.6	1335.4
170°	1349.3	1348.5	1347.8	1347.0	1346.2	1345.8	1345.5	1345.2	1345.0	1344.7	1346.5
172.5°	1357.6	1356.9	1356.1	1355.3	1354.6	1354.1	1353.8	1353.5	1353.3	1353.0	1354.9
175°	1367.8	1367.1	1366.3	1365.5	1364.8	1364.1	1363.6	1363.1	1362.5	1362.0	1363.9
177.5°	1372.0	1371.4	1370.7	1370.1	1369.5	1369.0	1368.6	1368.2	1367.8	1367.3	1368.6
180°	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1



TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	73.2	76.8	80.3	82.8	84.0	85.2	86.4	87.6
90°	100.1	103.2	106.3	108.5	109.9	111.2	112.5	113.9
92.5°	94.6	98.2	101.8	104.2	105.4	106.5	107.6	108.8
95°	127.4	130.8	134.3	136.3	136.8	137.4	137.9	138.5
97.5°	174.2	177.5	180.8	183.0	184.0	185.0	186.0	187.1
100°	206.7	210.1	213.4	215.4	216.2	216.9	217.7	218.4
102.5°	242.6	246.1	249.6	251.6	252.4	253.2	253.9	254.6
105°	296.5	300.2	303.9	306.2	307.2	308.2	309.2	310.1
107.5°	355.0	358.3	361.5	363.0	362.8	362.6	362.4	362.2
110°	394.9	397.8	400.6	402.3	402.4	402.7	402.9	403.1



TEST NUMBER: P331486-940

CATALOG NUMBER: S122DIW-S290D1240U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	434.9	437.1	439.4	440.8	441.2	441.6	442.0	442.5
115°	496.3	498.7	501.2	502.6	502.7	502.9	503.2	503.4
117.5°	555.5	557.6	559.6	560.7	560.9	561.1	561.2	561.3
120°	595.2	597.8	600.3	601.6	601.9	602.1	602.4	602.5
122.5°	636.3	638.2	640.0	641.1	641.3	641.6	641.9	642.2
125°	697.0	698.7	700.3	701.4	702.0	702.5	703.0	703.6
127.5°	755.8	757.1	758.4	759.0	759.0	758.9	758.9	758.9
130°	796.1	797.8	799.4	800.1	799.8	799.5	799.2	798.9
132.5°	835.4	836.3	837.3	837.7	837.6	837.5	837.4	837.3
135°	893.4	895.0	896.7	897.4	897.4	897.3	897.3	897.2
137.5°	949.0	950.4	951.9	952.3	952.0	951.5	951.1	950.7
140°	986.5	987.9	989.4	989.9	989.4	988.9	988.4	987.9
142.5°	1020.8	1022.2	1023.5	1024.0	1023.4	1022.8	1022.3	1021.7
145°	1073.4	1074.2	1075.0	1075.1	1074.5	1074.0	1073.4	1072.8
147.5°	1119.8	1120.4	1121.1	1121.1	1120.3	1119.5	1118.7	1118.0
150°	1149.7	1150.5	1151.2	1151.2	1150.5	1149.7	1148.9	1148.2
152.5°	1179.7	1180.6	1181.6	1181.6	1180.6	1179.7	1178.8	1177.8
155°	1217.8	1219.1	1220.3	1220.6	1219.9	1219.1	1218.3	1217.5
157.5°	1252.9	1254.6	1256.4	1256.7	1255.4	1254.2	1252.9	1251.7
160°	1273.8	1275.3	1276.8	1277.1	1276.1	1275.1	1274.1	1273.0
162.5°	1292.7	1294.4	1296.2	1296.5	1295.2	1294.0	1292.7	1291.6
165°	1317.1	1318.8	1320.7	1320.9	1319.6	1318.4	1317.1	1315.8
167.5°	1337.2	1339.0	1340.8	1341.0	1339.7	1338.4	1337.0	1335.7
170°	1348.3	1350.1	1351.9	1352.0	1350.5	1349.0	1347.4	1345.9
172.5°	1356.6	1358.4	1360.2	1360.3	1358.8	1357.3	1355.8	1354.2
175°	1365.7	1367.4	1369.2	1369.4	1367.8	1366.3	1364.8	1363.2
177.5°	1369.8	1371.1	1372.3	1372.3	1371.1	1369.8	1368.6	1367.3
180°	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1

(END OF REPORT)