

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: P331908-940

Luminaire Tested: **S123DIP-S340D1195U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331908-940
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-S340D1195U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4915.5 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

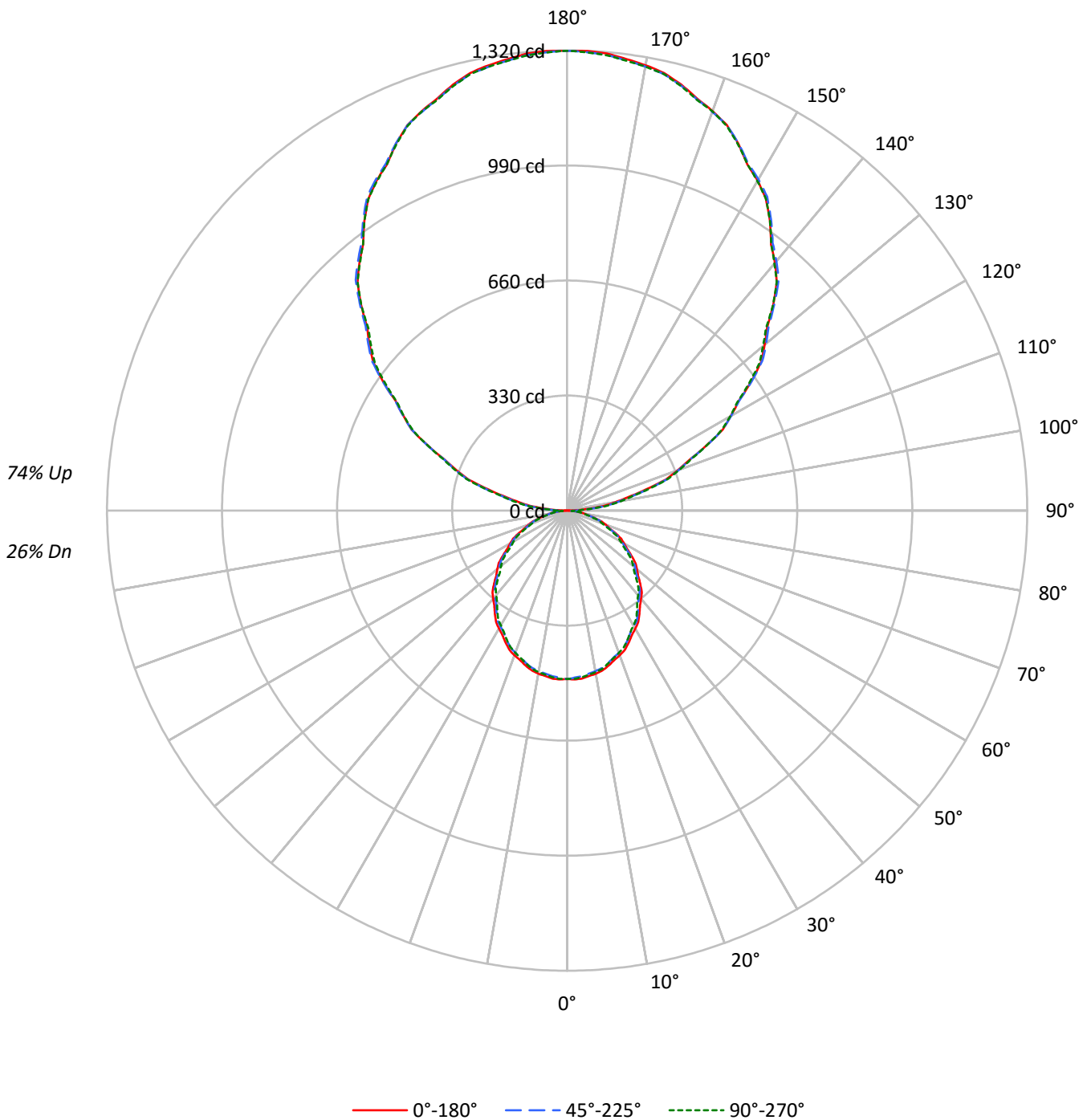
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331908-940

CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

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	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	76	73	61	59	57	45	43	42	30	29	28	22
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	67	60	55	68	60	54	50	47	43	39	35	32	30	23	22	20	15
4	70	60	52	46	62	53	47	42	42	37	34	31	28	25	21	19	17	13
5	64	53	45	39	57	47	41	36	37	32	29	28	24	22	19	17	15	11
6	59	47	39	34	52	42	36	31	33	28	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8
9	47	35	28	23	42	31	25	21	25	20	17	19	16	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5201	5201	5201
5°	5226	5154	5190
10°	5191	5109	5141
15°	5131	5051	5060
20°	5060	4969	4974
25°	4963	4871	4861
30°	4860	4762	4724
35°	4750	4646	4586
40°	4636	4519	4449
45°	4509	4402	4294
50°	4382	4258	4140
55°	4219	4110	3984
60°	4052	3935	3810
65°	3904	3744	3629
70°	3688	3531	3374
75°	3373	3248	3111
80°	3037	2913	2882
85°	2668	2569	2470



TEST NUMBER: P331908-940

CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.5	0.9
10°-20°	128.5	2.6
20°-30°	189.9	3.9
30°-40°	221.8	4.5
40°-50°	223.0	4.5
50°-60°	195.8	4.0
60°-70°	145.9	3.0
70°-80°	83.1	1.7
80°-90°	27.8	0.6
90°-100°	85.9	1.7
100°-110°	257.2	5.2
110°-120°	437.4	8.9
120°-130°	575.3	11.7
130°-140°	646.7	13.2
140°-150°	635.6	12.9
150°-160°	535.1	10.9
160°-170°	356.2	7.2
170°-180°	124.7	2.5
0°-30°	363.9	7.4
0°-40°	585.7	11.9
0°-60°	1004.5	20.4
0°-90°	1261.3	25.7
90°-120°	780.5	15.9
90°-150°	2638.1	53.7
90°-180°	3654.0	74.3
0°-180°	4915.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	484	481	477	481	480	46
15°	460	458	453	456	454	130
25°	418	415	410	410	409	192
35°	362	359	354	351	349	226
45°	296	294	289	284	282	229
55°	225	224	219	215	212	201
65°	153	151	147	144	142	151
75°	81	79	78	76	75	87
85°	22	21	21	20	20	24
90°	1	12	25	29	31	5
95°	61	68	77	81	81	69
105°	233	236	244	245	247	250
115°	440	443	441	442	441	436
125°	644	647	646	641	637	574
135°	836	842	841	837	835	644
145°	1014	1016	1020	1018	1014	633
155°	1162	1162	1162	1166	1159	534
165°	1265	1262	1262	1267	1261	357
175°	1316	1312	1312	1317	1311	125
180°	1319	1319	1319	1319	1319	



TEST NUMBER: P331908-940

CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	484.9	484.6	484.3	484.0	483.7	483.1	482.3	481.5	480.7	479.9	480.6
5°	483.7	483.1	482.7	482.2	481.8	481.1	480.0	479.0	478.0	477.0	477.9
7.5°	478.9	478.4	478.0	477.5	477.1	476.3	475.3	474.2	473.1	472.1	472.9
10°	474.9	474.5	473.9	473.5	473.1	472.3	471.0	469.8	468.6	467.4	468.2
12.5°	469.6	469.2	468.8	468.4	468.1	467.3	466.2	465.0	463.9	462.8	463.4
15°	460.4	460.0	459.6	459.2	458.9	458.1	456.9	455.7	454.5	453.3	454.1
17.5°	449.6	449.2	448.7	448.2	447.7	446.9	445.7	444.5	443.3	442.1	442.6
20°	441.7	441.1	440.6	440.0	439.4	438.5	437.4	436.1	435.0	433.8	434.2
22.5°	432.7	432.1	431.6	431.1	430.5	429.6	428.4	427.2	426.0	424.8	425.1
25°	417.9	417.4	416.9	416.3	415.8	414.9	413.7	412.5	411.3	410.1	410.2
27.5°	402.3	401.7	401.2	400.6	400.1	399.2	398.0	396.6	395.4	394.0	394.1
30°	391.0	390.5	390.0	389.6	389.1	388.3	387.0	385.7	384.4	383.1	383.1
32.5°	379.7	379.1	378.4	377.8	377.3	376.4	375.4	374.4	373.4	372.5	371.9
35°	361.5	361.0	360.3	359.8	359.3	358.4	357.2	356.0	354.8	353.6	353.0
37.5°	342.9	342.1	341.4	340.7	340.1	339.1	337.9	336.6	335.5	334.2	333.6
40°	329.9	329.3	328.8	328.2	327.7	326.7	325.5	324.1	322.9	321.6	320.8
42.5°	316.9	316.3	315.7	315.0	314.4	313.4	312.2	310.9	309.6	308.3	307.6
45°	296.2	295.9	295.5	295.2	294.8	294.0	292.7	291.6	290.3	289.2	288.1
47.5°	275.7	275.2	274.6	274.1	273.6	272.8	271.6	270.5	269.4	268.2	267.2
50°	261.7	261.3	260.8	260.4	259.9	259.0	257.9	256.7	255.5	254.3	253.2
52.5°	247.1	246.8	246.5	246.2	245.8	245.0	243.8	242.5	241.3	240.0	239.2
55°	224.8	224.7	224.6	224.5	224.4	223.7	222.6	221.3	220.2	219.0	217.9
57.5°	203.5	203.2	202.9	202.6	202.2	201.6	200.6	199.7	198.8	197.8	196.9
60°	188.2	188.2	188.1	188.0	187.9	187.3	186.1	185.0	184.0	182.8	182.0
62.5°	174.6	174.3	174.2	173.9	173.6	173.0	171.8	170.8	169.6	168.5	167.7
65°	153.3	152.8	152.4	151.9	151.5	150.8	149.9	148.9	148.0	147.0	146.3
67.5°	130.8	130.4	130.0	129.6	129.2	128.6	128.0	127.2	126.5	125.8	125.2
70°	117.2	116.6	116.1	115.5	114.9	114.4	113.9	113.2	112.7	112.2	111.6
72.5°	102.9	102.5	102.1	101.7	101.2	100.8	100.1	99.5	98.9	98.3	97.6
75°	81.1	80.6	80.3	79.9	79.5	79.2	78.9	78.6	78.4	78.1	77.7
77.5°	61.6	61.4	61.3	61.1	60.8	60.5	60.3	59.9	59.6	59.2	58.9
80°	49.0	48.8	48.5	48.2	47.9	47.7	47.5	47.3	47.2	47.0	46.8
82.5°	36.7	36.6	36.6	36.6	36.5	36.5	36.4	36.4	36.4	36.3	36.1
85°	21.6	21.4	21.2	21.0	20.9	20.8	20.8	20.8	20.8	20.8	20.6
87.5°	8.8	9.1	9.4	9.5	9.8	10.2	10.7	11.2	11.8	12.3	12.4
90°	1.1	3.3	5.6	7.9	10.3	12.9	15.9	18.9	21.8	24.9	25.8
92.5°	25.1	26.7	28.2	29.8	31.3	33.0	34.7	36.4	38.1	39.8	40.5
95°	61.2	62.8	64.4	66.0	67.6	69.3	71.2	72.9	74.8	76.7	77.6
97.5°	108.6	109.8	111.0	112.2	113.3	114.7	116.0	117.3	118.6	119.9	121.0
100°	140.9	142.3	143.7	145.1	146.4	147.7	148.8	150.0	151.1	152.3	153.0
102.5°	178.2	179.1	179.9	180.7	181.6	182.7	184.2	185.7	187.3	188.8	189.5
105°	233.1	233.5	234.1	234.5	235.0	236.2	238.3	240.4	242.5	244.5	244.5
107.5°	296.9	297.2	297.5	297.7	298.0	298.6	299.4	300.2	301.0	301.9	302.6
110°	336.7	337.2	337.6	338.1	338.6	339.0	339.5	339.9	340.4	340.9	341.8



TEST NUMBER: P331908-940

CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	378.2	378.4	378.7	379.0	379.2	379.4	379.5	379.6	379.7	379.8	380.9
115°	440.3	441.0	441.7	442.4	443.1	443.2	442.7	442.3	441.8	441.4	441.6
117.5°	502.9	503.4	503.8	504.3	504.7	504.7	504.1	503.5	502.9	502.3	502.2
120°	541.9	543.2	544.7	546.0	547.4	547.5	546.4	545.2	544.0	542.9	542.7
122.5°	582.5	583.4	584.5	585.5	586.6	586.7	586.1	585.5	585.0	584.3	583.7
125°	644.4	645.2	645.8	646.5	647.2	647.3	646.8	646.4	646.0	645.5	644.5
127.5°	701.6	703.1	704.5	706.1	707.5	708.0	707.5	706.9	706.5	706.0	704.7
130°	739.8	741.5	743.4	745.3	747.1	747.7	747.0	746.3	745.6	744.9	744.0
132.5°	777.8	779.7	781.6	783.4	785.2	786.0	785.4	784.9	784.3	783.9	782.7
135°	836.1	837.5	838.8	840.3	841.6	842.2	842.0	841.8	841.5	841.2	840.3
137.5°	890.0	891.1	892.2	893.4	894.6	895.5	896.1	896.6	897.2	897.9	896.9
140°	927.3	928.4	929.6	930.8	931.8	932.6	932.8	933.0	933.3	933.5	933.3
142.5°	961.3	962.4	963.6	964.7	965.9	966.6	967.1	967.5	967.9	968.3	968.0
145°	1014.3	1014.8	1015.2	1015.7	1016.1	1016.7	1017.4	1018.1	1018.8	1019.5	1019.2
147.5°	1060.7	1061.6	1062.4	1063.2	1064.1	1064.8	1065.4	1066.0	1066.7	1067.4	1067.4
150°	1093.1	1093.5	1094.0	1094.4	1094.9	1095.4	1095.8	1096.3	1096.7	1097.2	1097.2
152.5°	1119.5	1120.3	1120.9	1121.5	1122.1	1122.6	1122.8	1123.2	1123.5	1123.7	1124.1
155°	1161.5	1161.5	1161.5	1161.5	1161.5	1161.5	1161.8	1162.0	1162.3	1162.4	1163.4
157.5°	1197.0	1196.8	1196.5	1196.2	1196.0	1195.9	1196.1	1196.3	1196.5	1196.7	1197.7
160°	1219.4	1219.0	1218.5	1218.1	1217.6	1217.4	1217.4	1217.4	1217.4	1217.4	1218.5
162.5°	1239.3	1238.7	1238.1	1237.4	1236.8	1236.5	1236.7	1236.9	1237.1	1237.2	1238.4
165°	1265.1	1264.4	1263.6	1262.9	1262.3	1261.9	1261.9	1261.9	1261.9	1261.9	1263.3
167.5°	1285.6	1284.6	1283.7	1282.8	1281.8	1281.5	1281.7	1281.8	1282.0	1282.2	1283.6
170°	1297.2	1296.2	1295.3	1294.4	1293.4	1293.0	1293.0	1293.0	1293.0	1293.0	1294.6
172.5°	1306.3	1305.4	1304.4	1303.5	1302.6	1302.2	1302.2	1302.2	1302.2	1302.2	1303.6
175°	1315.8	1314.9	1313.9	1313.0	1312.2	1311.6	1311.6	1311.6	1311.6	1311.6	1313.0
177.5°	1319.7	1319.0	1318.3	1317.5	1316.8	1316.4	1316.4	1316.4	1316.4	1316.4	1317.5
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9



TEST NUMBER: P331908-940

CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	481.3	482.1	482.9	483.2	483.1	483.0	483.0	482.9
5°	478.8	479.7	480.7	481.1	480.9	480.7	480.5	480.3
7.5°	473.8	474.6	475.4	475.7	475.6	475.5	475.5	475.3
10°	469.1	469.9	470.7	471.1	470.9	470.7	470.6	470.4
12.5°	464.0	464.6	465.2	465.5	465.4	465.2	465.1	465.0
15°	454.8	455.5	456.3	456.4	455.8	455.2	454.7	454.1
17.5°	443.1	443.6	444.2	444.3	444.1	443.9	443.7	443.5
20°	434.5	434.9	435.2	435.3	435.0	434.7	434.4	434.2
22.5°	425.3	425.7	426.0	426.0	425.6	425.3	424.9	424.5
25°	410.3	410.4	410.5	410.4	410.1	409.8	409.6	409.3
27.5°	394.2	394.3	394.3	394.2	393.9	393.5	393.2	392.8
30°	383.1	383.1	383.1	382.7	382.1	381.5	380.8	380.1
32.5°	371.4	370.9	370.4	370.0	369.6	369.3	368.9	368.5
35°	352.5	352.0	351.3	350.9	350.4	349.9	349.5	349.0
37.5°	332.9	332.3	331.5	331.1	330.8	330.5	330.2	329.9
40°	320.1	319.4	318.6	318.1	317.7	317.4	317.0	316.6
42.5°	306.8	306.0	305.3	304.8	304.4	304.1	303.7	303.3
45°	287.0	285.9	284.7	284.0	283.5	283.0	282.6	282.1
47.5°	266.1	265.0	263.9	263.1	262.7	262.3	261.9	261.5
50°	252.3	251.2	250.2	249.4	248.9	248.3	247.8	247.2
52.5°	238.3	237.4	236.5	235.8	235.2	234.7	234.2	233.6
55°	217.0	215.9	214.9	214.2	213.7	213.2	212.8	212.3
57.5°	196.0	195.0	194.1	193.4	192.9	192.3	191.8	191.3
60°	181.2	180.3	179.5	178.9	178.3	177.9	177.5	177.0
62.5°	166.8	166.0	165.2	164.6	164.3	164.0	163.7	163.4
65°	145.6	144.9	144.1	143.7	143.4	143.0	142.8	142.5
67.5°	124.5	123.9	123.2	122.7	122.3	121.9	121.5	121.2
70°	110.9	110.2	109.6	109.1	108.6	108.2	107.6	107.2
72.5°	97.1	96.5	95.9	95.5	95.3	95.1	94.8	94.5
75°	77.2	76.7	76.2	75.9	75.6	75.3	75.1	74.8
77.5°	58.6	58.3	58.0	57.9	57.9	57.9	57.9	57.9
80°	46.7	46.6	46.5	46.5	46.5	46.5	46.5	46.5
82.5°	36.0	35.8	35.7	35.5	35.5	35.4	35.3	35.2
85°	20.4	20.2	20.1	20.0	20.0	20.0	20.0	20.0
87.5°	12.5	12.6	12.8	12.8	12.9	13.0	13.1	13.2
90°	26.8	27.6	28.5	29.2	29.7	30.1	30.6	31.1
92.5°	41.3	42.0	42.7	43.0	42.7	42.4	42.1	41.8
95°	78.5	79.5	80.3	80.8	80.8	80.8	80.8	80.8
97.5°	122.1	123.1	124.2	124.7	124.6	124.5	124.4	124.3
100°	153.6	154.4	155.1	155.6	156.1	156.6	157.0	157.5
102.5°	190.1	190.8	191.5	191.8	191.7	191.6	191.5	191.5
105°	244.5	244.5	244.5	244.8	245.2	245.7	246.1	246.6
107.5°	303.4	304.2	304.9	305.1	304.8	304.5	304.3	304.0
110°	342.7	343.7	344.6	344.7	344.3	343.8	343.4	343.0



TEST NUMBER: P331908-940

CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.0	383.2	384.2	384.8	384.7	384.6	384.5	384.4
115°	441.8	442.0	442.3	442.3	442.0	441.8	441.6	441.4
117.5°	502.2	502.1	502.1	501.8	501.1	500.4	499.8	499.2
120°	542.4	542.2	542.0	541.6	541.2	540.7	540.3	539.8
122.5°	583.2	582.6	581.9	581.3	580.7	580.1	579.3	578.7
125°	643.6	642.7	641.8	640.9	640.0	639.0	638.1	637.2
127.5°	703.4	702.1	700.8	699.6	698.6	697.5	696.4	695.4
130°	743.1	742.2	741.3	739.9	738.3	736.7	735.1	733.5
132.5°	781.7	780.6	779.4	778.3	777.0	775.8	774.5	773.3
135°	839.5	838.5	837.6	836.9	836.4	836.0	835.5	835.1
137.5°	895.9	894.9	893.9	893.0	892.2	891.4	890.5	889.6
140°	933.0	932.8	932.6	931.7	930.1	928.4	926.8	925.2
142.5°	967.9	967.6	967.4	966.6	965.4	964.1	963.0	961.7
145°	1019.0	1018.8	1018.6	1018.0	1017.1	1016.1	1015.2	1014.3
147.5°	1067.4	1067.4	1067.4	1066.7	1065.2	1063.9	1062.5	1061.1
150°	1097.2	1097.2	1097.2	1096.5	1095.1	1093.8	1092.3	1091.0
152.5°	1124.4	1124.8	1125.2	1124.8	1123.6	1122.4	1121.1	1120.0
155°	1164.3	1165.2	1166.2	1165.8	1164.2	1162.6	1161.0	1159.3
157.5°	1198.5	1199.5	1200.5	1200.3	1199.1	1197.7	1196.5	1195.2
160°	1219.7	1220.8	1222.0	1222.1	1221.2	1220.2	1219.3	1218.4
162.5°	1239.6	1240.7	1241.9	1241.7	1240.2	1238.8	1237.2	1235.8
165°	1264.7	1266.1	1267.5	1267.3	1265.7	1264.1	1262.5	1260.9
167.5°	1285.0	1286.5	1287.9	1287.9	1286.5	1285.0	1283.6	1282.2
170°	1296.2	1297.9	1299.5	1299.5	1297.9	1296.2	1294.6	1293.0
172.5°	1305.0	1306.4	1307.9	1307.8	1306.1	1304.5	1302.9	1301.3
175°	1314.4	1315.8	1317.1	1317.1	1315.5	1313.8	1312.2	1310.6
177.5°	1318.7	1319.7	1320.8	1320.7	1319.5	1318.1	1316.9	1315.6
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9

(END OF REPORT)