

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: P331952-940

Luminaire Tested: **S123DIP-S560D1195U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331952-940
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-S560D1195U940-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6323.4 lumens
Efficiency: N/A
Efficacy: 128.0 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

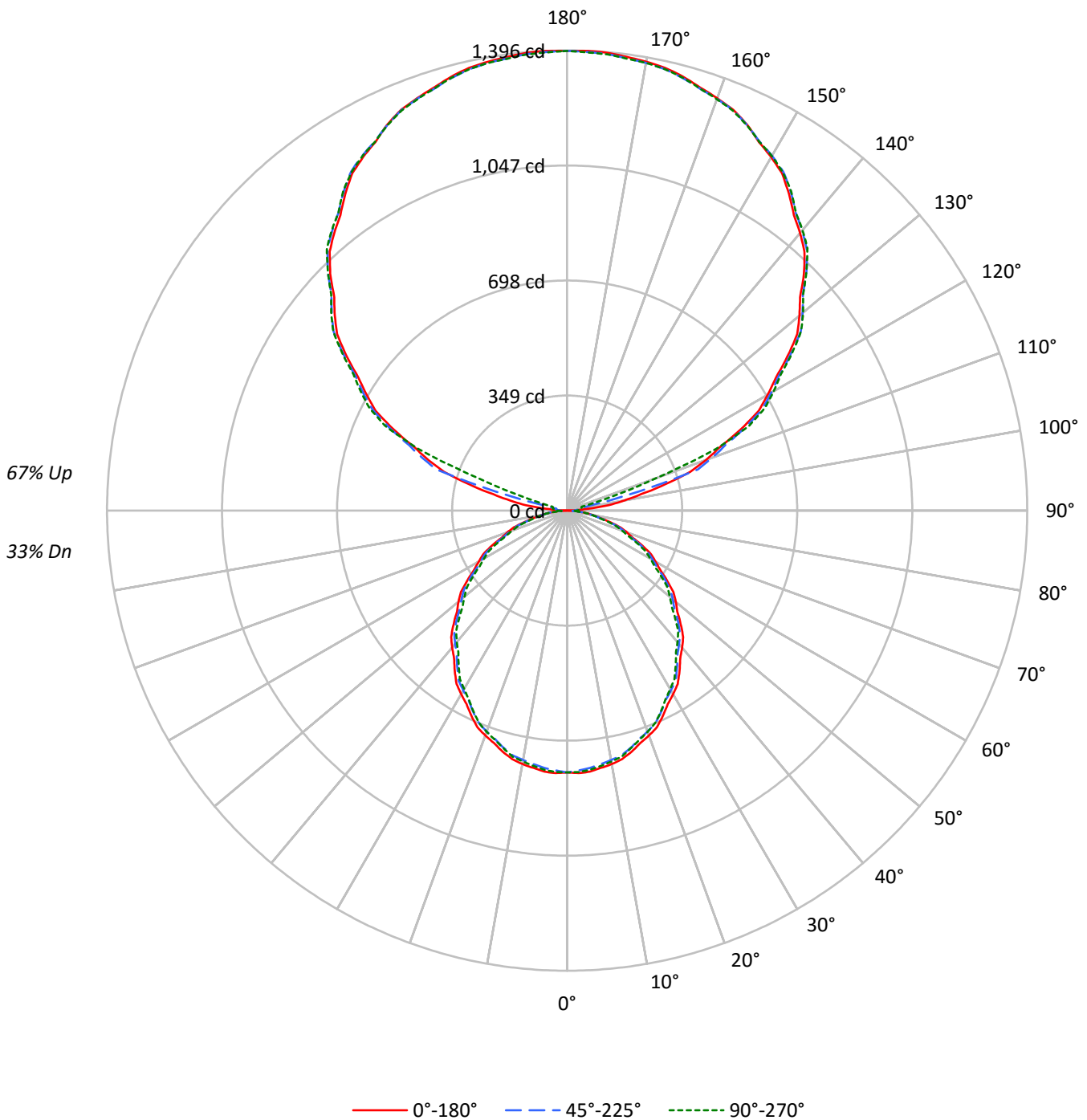
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	64	62	60	49	48	47	35	35	34	27
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28	23
3	78	69	62	56	70	62	56	51	50	45	42	38	35	33	28	26	24	19
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17
5	65	54	46	40	58	49	42	37	39	34	31	30	27	24	22	20	18	14
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	18	16	13
7	55	43	36	30	50	39	33	28	32	27	23	25	21	19	18	16	14	11
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	15	13	11	9
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8551	8551	8551
5°	8590	8473	8532
10°	8534	8400	8451
15°	8433	8304	8320
20°	8317	8168	8176
25°	8162	8007	7991
30°	7988	7828	7768
35°	7808	7638	7540
40°	7620	7429	7314
45°	7415	7237	7060
50°	7206	7000	6805
55°	6934	6756	6549
60°	6661	6469	6265
65°	6421	6159	5968
70°	6061	5803	5545
75°	5540	5340	5115
80°	4996	4785	4742
85°	4384	4224	4051



TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.8	1.2
10°-20°	211.3	3.3
20°-30°	312.1	4.9
30°-40°	364.6	5.8
40°-50°	366.5	5.8
50°-60°	322.0	5.1
60°-70°	239.9	3.8
70°-80°	136.7	2.2
80°-90°	43.1	0.7
90°-100°	50.7	0.8
100°-110°	241.6	3.8
110°-120°	580.4	9.2
120°-130°	739.1	11.7
130°-140°	789.7	12.5
140°-150°	738.4	11.7
150°-160°	595.6	9.4
160°-170°	384.4	6.1
170°-180°	132.5	2.1
0°-30°	598.2	9.5
0°-40°	962.8	15.2
0°-60°	1651.3	26.1
0°-90°	2071.0	32.8
90°-120°	872.7	13.8
90°-150°	3139.9	49.7
90°-180°	4252.0	67.2
0°-180°	6323.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	795	791	784	791	790	75
15°	757	754	745	750	747	213
25°	687	683	674	675	673	316
35°	594	590	581	577	574	372
45°	487	484	475	467	464	376
55°	370	368	360	353	349	331
65°	252	248	242	236	234	249
75°	133	131	128	125	123	142
85°	36	34	34	33	33	39
90°	1	12	25	29	31	5
95°	63	24	32	39	39	78
105°	309	314	227	54	46	327
115°	579	586	595	605	609	571
125°	816	824	829	831	833	729
135°	1016	1022	1027	1030	1027	782
145°	1173	1180	1182	1184	1184	734
155°	1292	1290	1291	1295	1290	595
165°	1362	1359	1358	1366	1359	385
175°	1394	1390	1390	1397	1389	133
180°	1394	1394	1394	1394	1394	



TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	797.1	796.7	796.2	795.7	795.2	794.2	792.9	791.6	790.3	789.0	790.1
5°	795.0	794.3	793.5	792.8	792.0	790.9	789.2	787.5	785.9	784.2	785.7
7.5°	787.3	786.6	785.8	785.1	784.3	783.0	781.3	779.5	777.8	776.1	777.5
10°	780.8	780.0	779.3	778.5	777.8	776.3	774.4	772.4	770.4	768.5	769.8
12.5°	772.0	771.3	770.7	770.1	769.5	768.2	766.3	764.5	762.7	760.8	761.8
15°	756.8	756.3	755.6	755.0	754.4	753.1	751.2	749.2	747.2	745.2	746.5
17.5°	739.2	738.4	737.6	736.8	736.0	734.7	732.7	730.8	728.8	726.7	727.6
20°	726.1	725.2	724.2	723.4	722.5	721.0	719.1	717.1	715.1	713.1	713.7
22.5°	711.3	710.4	709.5	708.6	707.7	706.2	704.3	702.3	700.3	698.4	698.8
25°	687.2	686.3	685.4	684.5	683.5	682.1	680.1	678.1	676.2	674.2	674.3
27.5°	661.4	660.5	659.6	658.7	657.8	656.3	654.2	652.1	650.0	647.8	647.9
30°	642.7	642.0	641.2	640.5	639.7	638.3	636.1	634.0	632.0	629.8	629.8
32.5°	624.2	623.2	622.1	621.2	620.2	618.8	617.2	615.5	613.9	612.3	611.4
35°	594.2	593.3	592.5	591.6	590.7	589.2	587.2	585.2	583.3	581.3	580.4
37.5°	563.7	562.5	561.3	560.2	559.0	557.5	555.4	553.5	551.4	549.5	548.4
40°	542.3	541.4	540.6	539.7	538.7	537.2	535.0	533.0	530.8	528.7	527.4
42.5°	521.0	520.0	519.0	517.9	516.9	515.3	513.2	511.1	509.0	506.8	505.6
45°	487.1	486.4	485.8	485.2	484.6	483.3	481.3	479.4	477.4	475.4	473.6
47.5°	453.3	452.4	451.6	450.7	449.8	448.4	446.6	444.7	442.8	441.0	439.2
50°	430.3	429.5	428.8	428.0	427.3	426.0	423.9	422.0	420.0	418.0	416.3
52.5°	406.3	405.7	405.3	404.7	404.2	402.9	400.8	398.8	396.6	394.6	393.2
55°	369.5	369.3	369.3	369.1	368.9	367.8	365.9	363.9	361.9	360.0	358.3
57.5°	334.6	334.0	333.5	333.1	332.5	331.4	329.8	328.3	326.7	325.1	323.7
60°	309.4	309.2	309.2	309.0	308.8	307.8	306.0	304.2	302.4	300.5	299.2
62.5°	287.0	286.6	286.2	285.9	285.4	284.4	282.5	280.7	278.8	277.1	275.7
65°	252.1	251.3	250.6	249.8	249.1	247.9	246.4	244.9	243.3	241.8	240.6
67.5°	215.0	214.4	213.7	213.0	212.3	211.4	210.3	209.1	207.9	206.9	205.8
70°	192.6	191.7	190.8	189.9	189.0	188.1	187.2	186.3	185.3	184.4	183.3
72.5°	169.2	168.4	167.8	167.1	166.5	165.6	164.6	163.5	162.5	161.5	160.5
75°	133.2	132.6	132.0	131.3	130.8	130.3	129.7	129.3	128.9	128.4	127.7
77.5°	101.4	101.0	100.7	100.4	100.0	99.6	99.1	98.5	97.9	97.4	96.9
80°	80.6	80.2	79.7	79.3	78.7	78.4	78.1	77.8	77.5	77.2	77.0
82.5°	60.4	60.3	60.2	60.1	60.0	59.9	59.9	59.8	59.7	59.7	59.4
85°	35.5	35.2	35.0	34.6	34.3	34.2	34.2	34.2	34.2	34.2	33.9
87.5°	14.4	14.5	14.6	14.7	14.8	15.1	15.6	16.1	16.5	17.0	17.0
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°	19.3	18.6	18.0	17.3	16.7	17.5	19.8	22.0	24.3	26.5	28.0
95°	63.2	53.8	44.3	34.9	25.4	22.0	24.5	27.0	29.6	32.1	33.7
97.5°	127.0	122.8	118.5	114.3	110.0	99.7	83.1	66.5	49.9	33.3	35.2
100°	175.0	179.7	184.3	188.9	193.5	177.8	142.0	106.0	70.1	34.2	36.0
102.5°	229.8	233.1	236.4	239.7	243.1	225.1	185.8	146.6	107.4	68.1	62.4
105°	308.7	311.3	313.8	316.3	318.9	309.8	289.0	268.3	247.6	226.9	186.1
107.5°	392.0	394.0	396.1	398.1	400.1	402.8	406.1	409.3	412.6	415.9	385.9
110°	447.5	449.4	451.2	453.1	455.0	457.1	459.7	462.2	464.7	467.3	459.7



TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	500.6	502.2	503.9	505.6	507.2	509.3	511.8	514.4	516.9	519.4	519.6
115°	579.2	580.5	581.8	583.3	584.6	586.4	588.4	590.5	592.6	594.7	597.0
117.5°	655.1	656.8	658.5	660.3	662.0	663.3	664.4	665.5	666.6	667.6	669.4
120°	702.4	704.5	706.6	708.6	710.7	712.1	712.7	713.5	714.2	714.8	716.7
122.5°	750.5	752.2	753.9	755.5	757.3	758.6	759.5	760.4	761.2	762.1	763.4
125°	816.4	818.2	820.0	821.9	823.8	825.1	826.0	827.0	827.9	828.8	829.3
127.5°	880.2	882.0	883.9	885.7	887.5	889.0	890.1	891.3	892.3	893.4	894.2
130°	920.0	921.9	923.6	925.5	927.3	928.7	929.6	930.6	931.5	932.4	933.4
132.5°	958.1	959.9	961.8	963.6	965.5	966.7	967.5	968.2	968.9	969.7	970.6
135°	1016.3	1017.7	1019.0	1020.5	1021.8	1023.0	1024.0	1024.8	1025.7	1026.7	1027.3
137.5°	1066.0	1067.8	1069.5	1071.3	1073.1	1074.2	1074.7	1075.2	1075.7	1076.2	1077.3
140°	1099.2	1100.5	1102.0	1103.3	1104.7	1105.7	1106.4	1107.1	1107.9	1108.5	1109.5
142.5°	1129.9	1131.2	1132.7	1134.0	1135.4	1136.4	1137.1	1137.8	1138.5	1139.2	1140.0
145°	1172.8	1174.4	1176.0	1177.6	1179.2	1180.3	1180.7	1181.2	1181.6	1182.1	1182.5
147.5°	1213.2	1214.2	1215.3	1216.3	1217.4	1218.2	1218.6	1219.1	1219.5	1219.9	1220.5
150°	1238.1	1238.7	1239.4	1240.1	1240.8	1241.4	1241.8	1242.2	1242.8	1243.2	1243.7
152.5°	1260.4	1260.7	1261.1	1261.3	1261.7	1261.9	1262.2	1262.6	1262.8	1263.1	1263.9
155°	1291.9	1291.5	1290.9	1290.5	1290.0	1289.9	1290.1	1290.4	1290.7	1290.8	1292.0
157.5°	1316.3	1316.3	1316.3	1316.2	1316.2	1316.0	1315.8	1315.5	1315.4	1315.1	1316.5
160°	1331.2	1331.1	1330.8	1330.6	1330.3	1330.1	1329.9	1329.6	1329.5	1329.2	1330.6
162.5°	1345.3	1344.8	1344.2	1343.5	1342.9	1342.6	1342.3	1342.1	1341.8	1341.6	1343.2
165°	1362.4	1361.6	1360.9	1360.3	1359.6	1359.1	1358.9	1358.6	1358.4	1358.2	1360.0
167.5°	1375.6	1374.7	1373.8	1372.9	1371.9	1371.5	1371.5	1371.5	1371.5	1371.5	1373.3
170°	1383.0	1382.2	1381.3	1380.3	1379.4	1378.9	1378.9	1378.9	1378.9	1378.9	1380.7
172.5°	1388.0	1387.0	1385.8	1384.7	1383.6	1383.1	1383.3	1383.5	1383.7	1383.8	1385.7
175°	1394.5	1393.3	1392.1	1391.0	1389.8	1389.4	1389.6	1389.8	1390.1	1390.3	1392.0
177.5°	1396.2	1395.2	1394.3	1393.4	1392.4	1392.0	1392.2	1392.4	1392.6	1392.8	1394.3
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5



TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	794.4	794.4	794.4	794.4	794.4	794.4	794.4	794.4
2.5°	791.4	792.6	793.8	794.3	794.2	794.1	794.0	793.9
5°	787.2	788.7	790.2	790.9	790.5	790.2	790.0	789.6
7.5°	778.8	780.2	781.6	782.1	781.9	781.8	781.6	781.4
10°	771.2	772.6	773.9	774.5	774.2	773.8	773.6	773.2
12.5°	762.8	763.8	764.8	765.2	765.0	764.8	764.6	764.5
15°	747.7	748.9	750.1	750.2	749.3	748.4	747.5	746.6
17.5°	728.5	729.3	730.2	730.4	730.1	729.8	729.4	729.1
20°	714.3	715.0	715.5	715.6	715.2	714.7	714.3	713.8
22.5°	699.4	699.8	700.3	700.3	699.7	699.1	698.6	697.9
25°	674.5	674.7	674.8	674.7	674.2	673.8	673.2	672.8
27.5°	648.1	648.2	648.3	648.1	647.5	646.9	646.3	645.8
30°	629.8	629.8	629.8	629.3	628.2	627.1	626.1	625.0
32.5°	610.6	609.8	608.9	608.1	607.6	607.1	606.5	605.9
35°	579.4	578.5	577.7	576.8	576.0	575.3	574.5	573.8
37.5°	547.2	546.2	545.1	544.3	543.9	543.3	542.9	542.3
40°	526.3	525.0	523.9	522.9	522.3	521.7	521.1	520.5
42.5°	504.4	503.2	501.9	501.1	500.4	499.9	499.3	498.6
45°	471.8	469.9	468.1	466.8	466.1	465.3	464.6	463.8
47.5°	437.4	435.6	433.8	432.6	431.9	431.2	430.6	429.9
50°	414.7	413.0	411.3	410.1	409.1	408.2	407.3	406.4
52.5°	391.7	390.3	388.9	387.6	386.7	385.8	385.0	384.1
55°	356.6	355.0	353.3	352.0	351.3	350.5	349.8	349.0
57.5°	322.2	320.7	319.2	318.0	317.1	316.3	315.4	314.5
60°	297.8	296.5	295.1	294.0	293.3	292.5	291.8	291.0
62.5°	274.3	273.0	271.6	270.6	270.1	269.7	269.1	268.6
65°	239.3	238.2	236.9	236.1	235.7	235.2	234.8	234.3
67.5°	204.7	203.7	202.6	201.7	201.1	200.5	199.8	199.2
70°	182.3	181.3	180.2	179.2	178.5	177.7	177.0	176.2
72.5°	159.6	158.6	157.7	157.0	156.7	156.2	155.9	155.4
75°	126.9	126.2	125.4	124.8	124.3	123.9	123.4	123.0
77.5°	96.4	95.9	95.3	95.1	95.1	95.1	95.1	95.1
80°	76.9	76.7	76.6	76.5	76.5	76.5	76.5	76.5
82.5°	59.1	58.9	58.6	58.4	58.3	58.1	58.1	58.0
85°	33.5	33.3	32.9	32.8	32.8	32.8	32.8	32.8
87.5°	17.1	17.2	17.2	17.3	17.4	17.5	17.6	17.7
90°	26.7	27.6	28.5	29.2	29.7	30.1	30.6	31.1
92.5°	29.4	30.9	32.5	33.3	33.5	33.9	34.2	34.4
95°	35.3	36.9	38.5	39.3	39.3	39.3	39.3	39.3
97.5°	37.0	38.9	40.8	41.7	42.0	42.3	42.4	42.7
100°	37.9	39.7	41.6	42.6	42.8	43.1	43.2	43.5
102.5°	56.7	51.0	45.3	42.7	43.1	43.5	44.0	44.3
105°	145.3	104.6	63.8	43.8	44.2	44.7	45.1	45.6
107.5°	356.1	326.2	296.3	266.0	235.3	204.6	173.9	143.2
110°	452.0	444.4	436.8	416.6	383.7	350.7	317.8	284.9



TEST NUMBER: P331952-940

CATALOG NUMBER: S123DIP-S560D1195U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	519.7	519.9	520.0	516.6	509.6	502.7	495.7	488.7
115°	599.2	601.5	603.9	605.5	606.4	607.3	608.2	609.1
117.5°	671.3	673.2	674.9	676.0	676.2	676.4	676.5	676.7
120°	718.5	720.3	722.2	723.1	723.1	723.1	723.1	723.1
122.5°	764.6	766.0	767.2	767.9	768.1	768.3	768.6	768.7
125°	829.7	830.2	830.6	831.1	831.5	832.1	832.5	832.9
127.5°	894.9	895.6	896.3	896.5	896.1	895.6	895.2	894.7
130°	934.2	935.1	936.1	936.3	935.9	935.4	935.0	934.5
132.5°	971.5	972.5	973.4	973.5	972.9	972.2	971.6	970.9
135°	1028.1	1028.8	1029.5	1029.5	1028.8	1028.1	1027.3	1026.7
137.5°	1078.4	1079.5	1080.6	1080.9	1080.5	1080.0	1079.6	1079.1
140°	1110.4	1111.3	1112.2	1112.4	1112.0	1111.5	1111.1	1110.6
142.5°	1140.7	1141.4	1142.1	1142.2	1141.6	1140.9	1140.2	1139.6
145°	1183.0	1183.5	1183.9	1184.1	1184.1	1184.1	1184.1	1184.1
147.5°	1220.9	1221.4	1221.8	1221.6	1220.5	1219.4	1218.3	1217.3
150°	1244.1	1244.6	1245.0	1244.9	1244.2	1243.6	1242.9	1242.2
152.5°	1264.7	1265.6	1266.4	1266.3	1265.2	1264.2	1263.1	1262.0
155°	1293.2	1294.3	1295.5	1295.3	1294.0	1292.6	1291.2	1289.9
157.5°	1317.9	1319.2	1320.6	1320.4	1318.7	1316.8	1315.0	1313.2
160°	1331.9	1333.3	1334.7	1334.6	1333.0	1331.4	1329.7	1328.1
162.5°	1344.8	1346.3	1347.9	1347.9	1346.5	1345.1	1343.6	1342.2
165°	1361.9	1363.7	1365.6	1365.7	1364.1	1362.4	1360.8	1359.2
167.5°	1375.1	1377.0	1378.9	1378.9	1377.0	1375.1	1373.3	1371.5
170°	1382.6	1384.5	1386.3	1386.3	1384.5	1382.6	1380.7	1378.9
172.5°	1387.6	1389.4	1391.2	1391.2	1389.1	1387.1	1385.1	1383.0
175°	1393.6	1395.2	1396.8	1396.6	1394.8	1392.9	1391.2	1389.3
177.5°	1395.7	1397.2	1398.6	1398.5	1396.7	1394.8	1392.9	1391.2
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5

(END OF REPORT)