

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: P332297-930

Luminaire Tested: **S123RDIP-S560D1195U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332297-930
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: S123RDIP-S560D1195U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5631.2 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

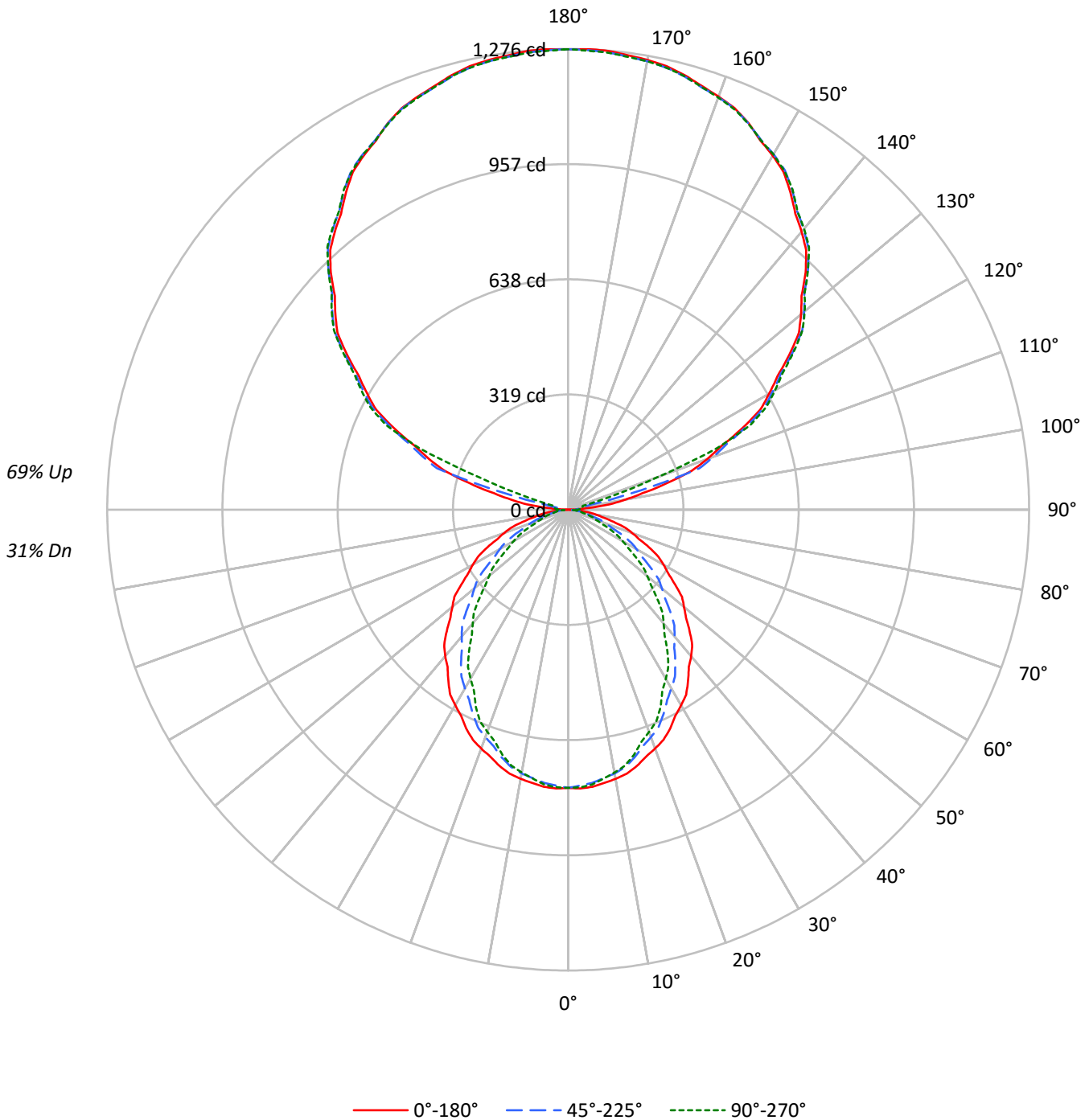
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	94	90	86	83	84	81	78	75	64	62	60	49	47	46	34	34	33	26
2	85	78	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28	22
3	78	69	62	57	70	62	56	52	50	46	42	38	35	33	27	25	24	19
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	17
5	65	54	47	41	59	49	43	38	40	35	31	30	27	25	22	20	18	15
6	60	49	41	35	54	44	37	33	36	31	27	28	24	21	20	18	16	13
7	56	44	36	31	50	40	33	29	32	27	24	25	22	19	18	16	14	12
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.3
10°-20°	201.2	3.6
20°-30°	289.7	5.1
30°-40°	326.3	5.8
40°-50°	312.2	5.5
50°-60°	255.7	4.5
60°-70°	172.5	3.1
70°-80°	86.8	1.5
80°-90°	26.5	0.5
90°-100°	46.4	0.8
100°-110°	220.9	3.9
110°-120°	530.6	9.4
120°-130°	675.7	12.0
130°-140°	722.0	12.8
140°-150°	675.1	12.0
150°-160°	544.6	9.7
160°-170°	351.5	6.2
170°-180°	121.1	2.2
0°-30°	563.2	10.0
0°-40°	889.5	15.8
0°-60°	1457.4	25.9
0°-90°	1743.2	31.0
90°-120°	797.9	14.2
90°-150°	2870.8	51.0
90°-180°	3888.0	69.0
0°-180°	5631.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	1	11	23	26	28	4
95°	58	22	29	36	36	71
105°	282	287	207	49	42	299
115°	530	535	544	553	557	522
125°	746	754	758	760	762	666
135°	929	935	939	941	939	715
145°	1072	1079	1081	1083	1083	671
155°	1181	1179	1180	1184	1179	544
165°	1246	1243	1242	1249	1243	352
175°	1275	1270	1271	1277	1270	121
180°	1275	1275	1275	1275	1275	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.1	11.4	10.6	9.8	9.0	8.9	9.4	9.9	10.5	11.0	11.1
90°	1.0	3.0	5.1	7.3	9.4	11.8	14.5	17.3	20.0	22.7	23.6
92.5°	17.6	17.0	16.5	15.8	15.2	16.0	18.1	20.1	22.2	24.2	25.6
95°	57.8	49.2	40.5	31.9	23.2	20.1	22.4	24.7	27.1	29.4	30.8
97.5°	116.1	112.3	108.4	104.5	100.6	91.2	76.0	60.8	45.7	30.5	32.2
100°	160.0	164.3	168.5	172.7	176.9	162.6	129.8	96.9	64.1	31.2	32.9
102.5°	210.1	213.1	216.1	219.2	222.3	205.8	169.9	134.0	98.2	62.3	57.1
105°	282.3	284.6	286.9	289.2	291.6	283.2	264.2	245.3	226.4	207.4	170.2
107.5°	358.4	360.3	362.2	363.9	365.8	368.3	371.3	374.2	377.2	380.3	352.9
110°	409.2	410.9	412.5	414.3	416.0	417.9	420.3	422.6	424.9	427.2	420.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.7	459.2	460.7	462.3	463.7	465.7	468.0	470.3	472.6	474.9	475.1
115°	529.5	530.8	532.0	533.3	534.5	536.1	538.0	539.9	541.8	543.7	545.8
117.5°	599.0	600.5	602.1	603.7	605.3	606.5	607.5	608.5	609.4	610.4	612.0
120°	642.2	644.1	646.0	647.9	649.8	651.1	651.7	652.3	653.0	653.5	655.3
122.5°	686.2	687.7	689.3	690.8	692.4	693.6	694.4	695.2	695.9	696.8	698.0
125°	746.4	748.1	749.7	751.5	753.2	754.4	755.2	756.1	756.9	757.7	758.2
127.5°	804.8	806.4	808.1	809.8	811.5	812.9	813.8	814.9	815.9	816.8	817.6
130°	841.1	842.9	844.5	846.2	847.8	849.1	849.9	850.8	851.7	852.5	853.4
132.5°	876.0	877.7	879.4	881.0	882.7	883.9	884.6	885.3	885.9	886.6	887.5
135°	929.2	930.5	931.7	933.0	934.3	935.3	936.2	937.0	937.8	938.7	939.3
137.5°	974.7	976.3	977.9	979.5	981.1	982.1	982.6	983.1	983.5	984.0	985.0
140°	1005.0	1006.2	1007.5	1008.8	1010.1	1011.0	1011.6	1012.3	1012.9	1013.5	1014.4
142.5°	1033.1	1034.3	1035.6	1036.8	1038.1	1039.0	1039.7	1040.3	1041.0	1041.5	1042.3
145°	1072.3	1073.7	1075.2	1076.7	1078.2	1079.1	1079.5	1079.9	1080.4	1080.8	1081.2
147.5°	1109.2	1110.2	1111.2	1112.1	1113.0	1113.8	1114.2	1114.6	1115.0	1115.4	1115.9
150°	1132.0	1132.5	1133.2	1133.8	1134.5	1135.0	1135.4	1135.8	1136.3	1136.7	1137.1
152.5°	1152.4	1152.7	1153.0	1153.2	1153.6	1153.8	1154.1	1154.4	1154.6	1154.9	1155.6
155°	1181.2	1180.8	1180.3	1179.9	1179.5	1179.4	1179.6	1179.8	1180.1	1180.2	1181.3
157.5°	1203.5	1203.5	1203.5	1203.4	1203.4	1203.2	1203.1	1202.8	1202.6	1202.4	1203.7
160°	1217.2	1217.0	1216.8	1216.6	1216.3	1216.1	1215.9	1215.7	1215.5	1215.3	1216.6
162.5°	1230.0	1229.6	1229.0	1228.4	1227.8	1227.5	1227.3	1227.1	1226.9	1226.6	1228.1
165°	1245.6	1245.0	1244.3	1243.7	1243.1	1242.7	1242.4	1242.2	1242.0	1241.8	1243.5
167.5°	1257.8	1256.9	1256.1	1255.2	1254.3	1253.9	1253.9	1253.9	1253.9	1253.9	1255.6
170°	1264.5	1263.7	1262.9	1262.0	1261.2	1260.8	1260.8	1260.8	1260.8	1260.8	1262.4
172.5°	1269.1	1268.1	1267.1	1266.1	1265.0	1264.6	1264.8	1264.9	1265.1	1265.3	1267.0
175°	1275.0	1273.9	1272.8	1271.8	1270.7	1270.3	1270.6	1270.7	1271.0	1271.1	1272.7
177.5°	1276.5	1275.6	1274.8	1274.0	1273.1	1272.8	1272.9	1273.1	1273.3	1273.4	1274.8
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	11.2	11.3	11.3	11.3	11.3	11.3	11.2	11.2
90°	24.4	25.3	26.1	26.7	27.1	27.6	28.0	28.5
92.5°	26.9	28.3	29.7	30.4	30.7	31.0	31.2	31.5
95°	32.3	33.8	35.2	36.0	36.0	36.0	36.0	36.0
97.5°	33.8	35.5	37.3	38.2	38.4	38.6	38.8	39.1
100°	34.7	36.3	38.0	39.0	39.1	39.4	39.5	39.8
102.5°	51.9	46.6	41.4	39.1	39.4	39.8	40.2	40.5
105°	132.9	95.6	58.4	40.0	40.4	40.8	41.3	41.7
107.5°	325.5	298.2	270.9	243.2	215.2	187.0	159.0	130.9
110°	413.3	406.3	399.4	380.9	350.8	320.7	290.6	260.5



TEST NUMBER: P332297-930

CATALOG NUMBER: S123RDIP-S560D1195U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	475.2	475.3	475.5	472.3	465.9	459.6	453.2	446.9
115°	547.9	550.0	552.1	553.6	554.4	555.3	556.1	556.9
117.5°	613.8	615.5	617.1	618.1	618.2	618.4	618.6	618.7
120°	657.0	658.6	660.3	661.1	661.1	661.1	661.1	661.1
122.5°	699.1	700.3	701.5	702.1	702.3	702.5	702.7	702.9
125°	758.6	759.0	759.5	759.9	760.3	760.8	761.2	761.6
127.5°	818.2	818.9	819.5	819.7	819.3	818.9	818.5	818.0
130°	854.2	855.0	855.9	856.1	855.7	855.2	854.8	854.4
132.5°	888.3	889.2	890.0	890.1	889.5	888.9	888.4	887.7
135°	940.0	940.6	941.3	941.3	940.6	940.0	939.3	938.7
137.5°	986.0	987.0	988.0	988.3	987.9	987.5	987.1	986.6
140°	1015.2	1016.0	1016.9	1017.1	1016.7	1016.3	1015.9	1015.5
142.5°	1042.9	1043.6	1044.2	1044.3	1043.7	1043.1	1042.5	1042.0
145°	1081.7	1082.1	1082.5	1082.6	1082.6	1082.6	1082.6	1082.6
147.5°	1116.3	1116.7	1117.1	1116.9	1115.9	1114.9	1113.9	1113.0
150°	1137.5	1137.9	1138.3	1138.2	1137.6	1137.0	1136.4	1135.7
152.5°	1156.3	1157.2	1157.9	1157.8	1156.8	1155.8	1154.9	1153.9
155°	1182.3	1183.4	1184.5	1184.3	1183.1	1181.9	1180.6	1179.3
157.5°	1204.9	1206.2	1207.5	1207.3	1205.7	1204.0	1202.3	1200.7
160°	1217.8	1219.0	1220.3	1220.3	1218.8	1217.3	1215.8	1214.3
162.5°	1229.6	1230.9	1232.4	1232.4	1231.1	1229.8	1228.5	1227.2
165°	1245.2	1246.8	1248.5	1248.6	1247.2	1245.7	1244.2	1242.8
167.5°	1257.3	1259.0	1260.7	1260.7	1259.0	1257.3	1255.6	1253.9
170°	1264.1	1265.8	1267.5	1267.5	1265.8	1264.1	1262.4	1260.8
172.5°	1268.7	1270.3	1272.0	1271.9	1270.1	1268.3	1266.4	1264.5
175°	1274.1	1275.6	1277.1	1276.9	1275.3	1273.6	1271.9	1270.2
177.5°	1276.1	1277.5	1278.8	1278.6	1277.0	1275.3	1273.6	1271.9
180°	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0	1275.0

(END OF REPORT)