

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: P331953-935

Luminaire Tested: **S123DIP-S560D1195U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331953-935
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-S560D1195U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 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: 5528.1 lumens
Efficiency: N/A
Efficacy: 111.9 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

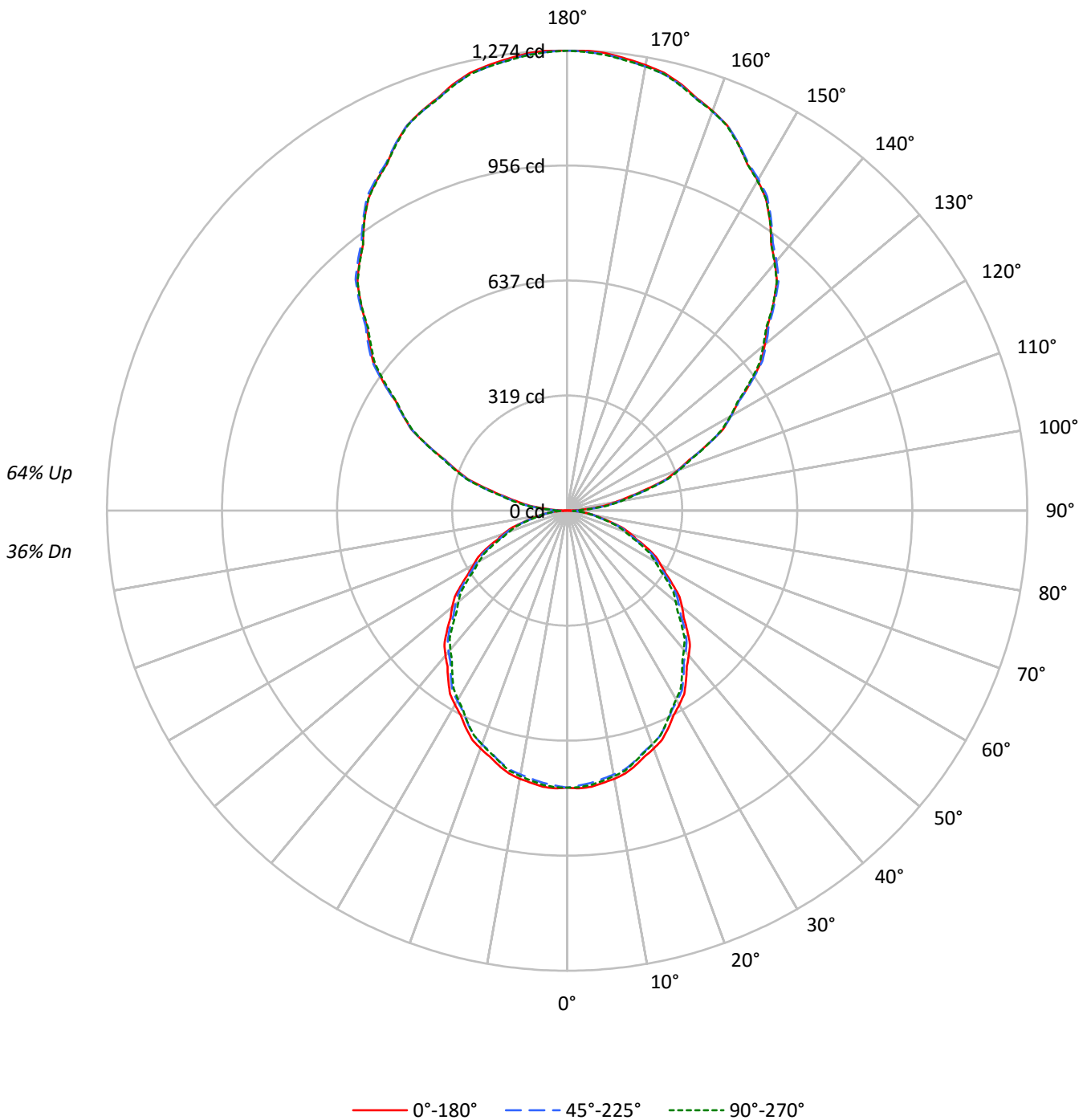
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	20	16
6	61	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	1.3
10°-20°	204.0	3.7
20°-30°	301.4	5.5
30°-40°	352.0	6.4
40°-50°	353.9	6.4
50°-60°	310.9	5.6
60°-70°	231.6	4.2
70°-80°	132.0	2.4
80°-90°	41.6	0.8
90°-100°	83.0	1.5
100°-110°	248.3	4.5
110°-120°	422.3	7.6
120°-130°	555.5	10.0
130°-140°	624.4	11.3
140°-150°	613.8	11.1
150°-160°	516.7	9.3
160°-170°	343.9	6.2
170°-180°	120.4	2.2
0°-30°	577.6	10.4
0°-40°	929.7	16.8
0°-60°	1594.5	28.8
0°-90°	1999.7	36.2
90°-120°	753.6	13.6
90°-150°	2547.3	46.1
90°-180°	3528.0	63.8
0°-180°	5528.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	1	11	24	28	30	5
95°	59	66	74	78	78	66
105°	225	228	236	236	238	241
115°	425	428	426	427	426	421
125°	622	625	623	619	615	555
135°	807	813	812	808	806	622
145°	979	981	984	983	979	612
155°	1122	1122	1122	1126	1119	516
165°	1222	1219	1218	1224	1218	344
175°	1270	1267	1266	1272	1266	121
180°	1274	1274	1274	1274	1274	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	13.9	14.0	14.1	14.2	14.3	14.6	15.1	15.5	15.9	16.4	16.4
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	24.2	25.7	27.2	28.8	30.2	31.9	33.5	35.1	36.8	38.4	39.1
95°	59.1	60.6	62.2	63.7	65.3	66.9	68.7	70.4	72.2	74.0	74.9
97.5°	104.9	106.0	107.2	108.3	109.4	110.7	112.0	113.3	114.5	115.8	116.8
100°	136.0	137.4	138.7	140.1	141.4	142.6	143.7	144.8	145.9	147.1	147.7
102.5°	172.0	172.9	173.7	174.4	175.3	176.4	177.9	179.3	180.8	182.3	183.0
105°	225.1	225.5	226.0	226.4	226.9	228.1	230.1	232.1	234.1	236.1	236.1
107.5°	286.7	287.0	287.2	287.5	287.7	288.3	289.1	289.9	290.7	291.5	292.2
110°	325.1	325.5	326.0	326.5	326.9	327.4	327.8	328.2	328.6	329.2	330.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.2	365.4	365.7	365.9	366.2	366.4	366.4	366.5	366.6	366.7	367.8
115°	425.2	425.9	426.5	427.1	427.8	427.9	427.5	427.1	426.6	426.2	426.4
117.5°	485.6	486.0	486.5	486.9	487.3	487.3	486.7	486.1	485.6	485.0	484.9
120°	523.2	524.5	525.9	527.2	528.6	528.7	527.5	526.4	525.3	524.2	524.0
122.5°	562.4	563.4	564.4	565.3	566.4	566.5	565.9	565.3	564.8	564.2	563.6
125°	622.2	622.9	623.5	624.2	624.9	625.0	624.6	624.1	623.7	623.3	622.3
127.5°	677.4	678.9	680.3	681.7	683.1	683.6	683.1	682.6	682.2	681.7	680.4
130°	714.3	716.0	717.8	719.6	721.3	721.9	721.3	720.6	720.0	719.3	718.4
132.5°	751.1	752.9	754.7	756.4	758.2	758.9	758.4	757.9	757.3	756.9	755.8
135°	807.3	808.7	809.9	811.3	812.6	813.2	813.0	812.8	812.5	812.3	811.4
137.5°	859.4	860.4	861.5	862.6	863.8	864.6	865.2	865.7	866.3	866.9	866.0
140°	895.4	896.5	897.6	898.7	899.7	900.4	900.7	900.9	901.1	901.4	901.1
142.5°	928.2	929.3	930.4	931.5	932.6	933.3	933.8	934.2	934.5	935.0	934.7
145°	979.4	979.8	980.2	980.7	981.1	981.7	982.4	983.0	983.7	984.4	984.1
147.5°	1024.2	1025.0	1025.8	1026.6	1027.4	1028.1	1028.7	1029.3	1029.9	1030.6	1030.6
150°	1055.4	1055.8	1056.3	1056.7	1057.2	1057.7	1058.1	1058.5	1058.9	1059.4	1059.4
152.5°	1081.0	1081.7	1082.3	1082.9	1083.5	1083.9	1084.2	1084.5	1084.8	1085.0	1085.4
155°	1121.5	1121.5	1121.5	1121.5	1121.5	1121.5	1121.8	1122.0	1122.2	1122.4	1123.3
157.5°	1155.8	1155.5	1155.3	1155.0	1154.8	1154.7	1154.9	1155.1	1155.3	1155.5	1156.4
160°	1177.4	1177.0	1176.6	1176.1	1175.7	1175.4	1175.4	1175.4	1175.4	1175.4	1176.6
162.5°	1196.6	1196.0	1195.4	1194.8	1194.2	1193.9	1194.1	1194.3	1194.5	1194.6	1195.8
165°	1221.5	1220.8	1220.1	1219.4	1218.8	1218.5	1218.5	1218.5	1218.5	1218.5	1219.8
167.5°	1241.3	1240.4	1239.5	1238.6	1237.7	1237.3	1237.5	1237.7	1237.9	1238.0	1239.4
170°	1252.5	1251.5	1250.7	1249.8	1248.9	1248.4	1248.4	1248.4	1248.4	1248.4	1250.0
172.5°	1261.3	1260.4	1259.5	1258.6	1257.7	1257.3	1257.3	1257.3	1257.3	1257.3	1258.7
175°	1270.5	1269.6	1268.7	1267.8	1267.0	1266.4	1266.4	1266.4	1266.4	1266.4	1267.8
177.5°	1274.3	1273.6	1272.9	1272.1	1271.4	1271.1	1271.1	1271.1	1271.1	1271.1	1272.1
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	16.5	16.6	16.6	16.7	16.8	16.9	17.0	17.0
90°	25.8	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	39.9	40.6	41.2	41.5	41.2	41.0	40.6	40.4
95°	75.8	76.7	77.6	78.0	78.0	78.0	78.0	78.0
97.5°	117.9	118.9	119.9	120.4	120.3	120.2	120.1	120.0
100°	148.4	149.0	149.7	150.2	150.8	151.2	151.6	152.1
102.5°	183.6	184.3	184.9	185.2	185.1	185.0	184.9	184.9
105°	236.1	236.1	236.1	236.3	236.8	237.2	237.6	238.1
107.5°	292.9	293.7	294.4	294.5	294.3	294.0	293.8	293.5
110°	330.9	331.8	332.7	332.9	332.4	332.0	331.6	331.1



TEST NUMBER: P331953-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.9	370.0	371.0	371.5	371.4	371.3	371.3	371.2
115°	426.6	426.8	427.1	427.1	426.8	426.6	426.4	426.2
117.5°	484.9	484.8	484.8	484.5	483.9	483.2	482.6	482.0
120°	523.7	523.6	523.3	523.0	522.5	522.1	521.7	521.2
122.5°	563.1	562.5	561.9	561.3	560.7	560.1	559.4	558.8
125°	621.5	620.6	619.7	618.8	617.9	617.0	616.1	615.3
127.5°	679.2	678.0	676.7	675.5	674.5	673.5	672.4	671.5
130°	717.5	716.6	715.7	714.5	712.9	711.4	709.8	708.3
132.5°	754.8	753.7	752.6	751.5	750.3	749.1	747.9	746.7
135°	810.5	809.6	808.7	808.0	807.6	807.2	806.8	806.3
137.5°	865.0	864.1	863.2	862.3	861.4	860.7	859.8	858.9
140°	900.9	900.7	900.4	899.6	898.0	896.5	894.9	893.4
142.5°	934.5	934.3	934.1	933.3	932.1	930.9	929.8	928.6
145°	984.0	983.7	983.5	982.9	982.1	981.1	980.2	979.4
147.5°	1030.6	1030.6	1030.6	1029.9	1028.6	1027.3	1025.9	1024.6
150°	1059.4	1059.4	1059.4	1058.8	1057.4	1056.1	1054.7	1053.4
152.5°	1085.7	1086.1	1086.4	1086.1	1084.9	1083.7	1082.5	1081.4
155°	1124.2	1125.1	1126.0	1125.7	1124.1	1122.6	1121.0	1119.4
157.5°	1157.3	1158.2	1159.2	1159.0	1157.8	1156.5	1155.3	1154.0
160°	1177.7	1178.8	1179.9	1180.0	1179.1	1178.2	1177.3	1176.5
162.5°	1196.9	1198.0	1199.1	1198.9	1197.5	1196.1	1194.6	1193.3
165°	1221.2	1222.4	1223.8	1223.7	1222.1	1220.6	1219.0	1217.5
167.5°	1240.8	1242.2	1243.5	1243.5	1242.2	1240.8	1239.4	1238.0
170°	1251.5	1253.2	1254.7	1254.7	1253.2	1251.5	1250.0	1248.4
172.5°	1260.1	1261.5	1262.8	1262.7	1261.1	1259.6	1258.0	1256.5
175°	1269.1	1270.5	1271.8	1271.7	1270.1	1268.6	1267.0	1265.5
177.5°	1273.2	1274.3	1275.3	1275.2	1274.0	1272.7	1271.5	1270.3
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5

(END OF REPORT)