

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: P332682-930

Luminaire Tested: **SA4XXDIP-C1195D590U930-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332682-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D590U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5888.3 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

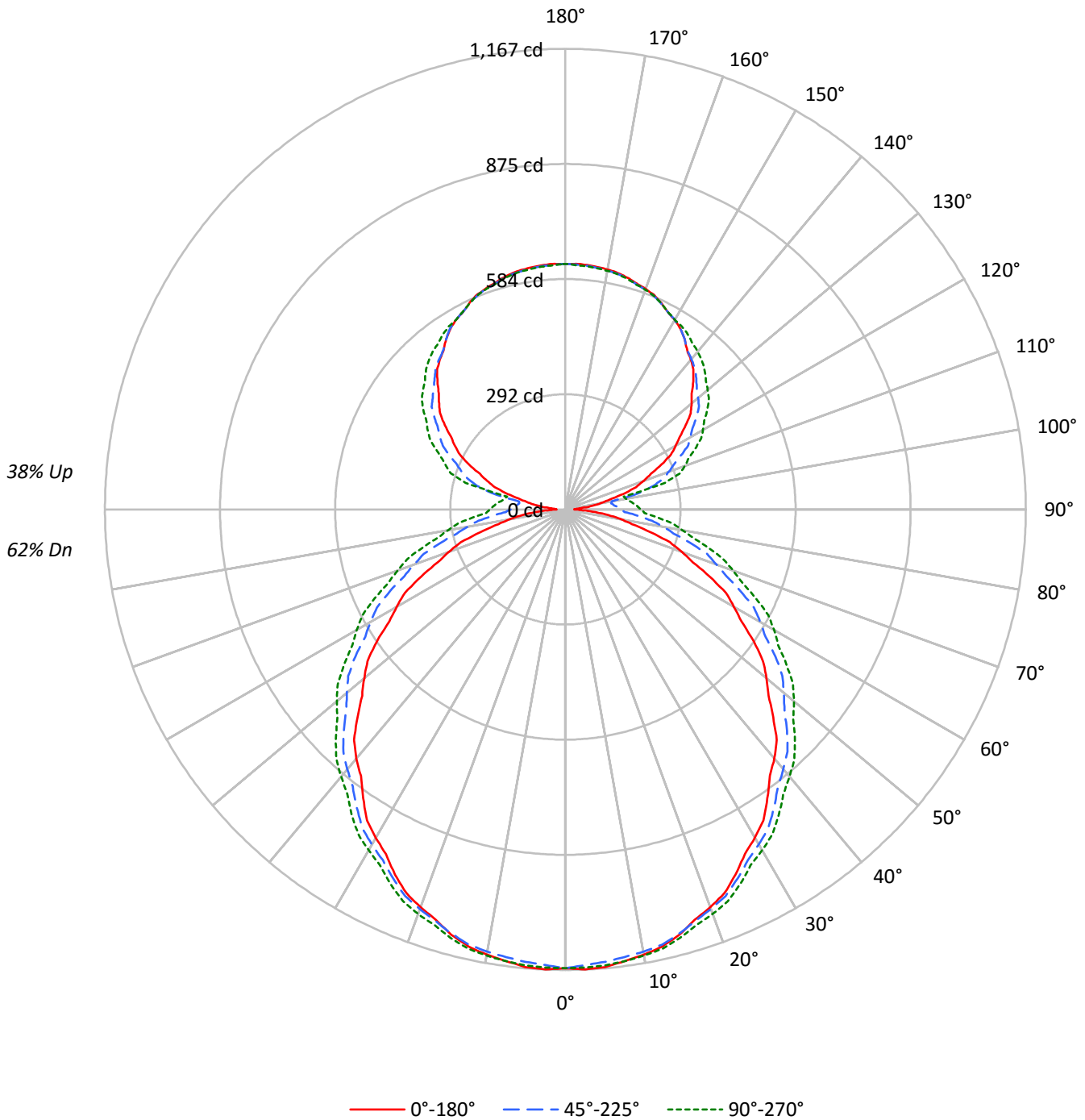
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	94	90	86	93	88	84	81	77	74	72	67	65	63	58	56	54	50
2	90	82	75	69	84	77	70	65	67	62	58	58	55	51	50	47	45	41
3	82	71	63	57	76	67	60	54	59	53	48	51	47	43	44	40	38	34
4	75	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	29
5	68	56	47	41	64	53	45	39	46	40	35	40	35	31	35	31	28	25
6	63	50	41	35	59	47	39	34	42	35	30	36	31	27	32	27	24	21
7	58	45	37	31	54	43	35	29	38	31	27	33	28	24	29	25	21	19
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15
10	47	34	27	22	44	33	26	21	29	23	19	26	21	17	23	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	1.9
10°-20°	315.4	5.4
20°-30°	477.0	8.1
30°-40°	577.1	9.8
40°-50°	610.1	10.4
50°-60°	574.2	9.8
60°-70°	476.4	8.1
70°-80°	334.6	5.7
80°-90°	191.0	3.2
90°-100°	133.6	2.3
100°-110°	218.7	3.7
110°-120°	315.2	5.4
120°-130°	360.8	6.1
130°-140°	365.9	6.2
140°-150°	332.2	5.6
150°-160°	265.7	4.5
160°-170°	171.4	2.9
170°-180°	59.1	1.0
0°-30°	902.5	15.3
0°-40°	1479.6	25.1
0°-60°	2663.8	45.2
0°-90°	3665.7	62.3
90°-120°	667.5	11.3
90°-150°	1726.4	29.3
90°-180°	2223.0	37.8
0°-180°	5888.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	22	80	139	178	191	15
95°	42	71	124	160	174	46
105°	152	182	231	265	262	160
115°	269	284	324	352	362	265
125°	373	375	405	430	439	333
135°	458	459	469	490	499	353
145°	527	527	527	535	541	329
155°	576	577	575	577	576	266
165°	608	606	606	609	605	172
175°	622	619	620	623	618	59
180°	622	622	622	622	622	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	38.8	50.9	62.9	74.9	86.9	99.4	112.2	125.1	137.9	150.7	159.2
90°	22.3	34.9	47.6	60.3	73.1	86.0	99.3	112.6	125.9	139.1	148.1
92.5°	25.7	36.1	46.6	57.1	67.6	79.4	92.7	106.0	119.2	132.5	141.3
95°	42.5	48.5	54.5	60.6	66.6	75.7	87.6	99.5	111.5	123.5	131.9
97.5°	69.7	80.1	90.5	100.9	111.3	116.6	116.8	117.1	117.2	117.5	125.1
100°	90.6	100.0	109.3	118.7	128.1	131.3	128.3	125.4	122.4	119.4	125.5
102.5°	115.1	123.1	131.1	139.0	147.0	155.6	164.8	174.0	183.1	192.3	180.9
105°	151.7	158.1	164.5	170.9	177.3	186.1	197.4	208.6	219.8	231.1	239.2
107.5°	187.8	192.9	198.0	203.0	208.1	216.0	226.8	237.7	248.4	259.3	266.8
110°	211.3	215.6	220.0	224.4	228.8	236.4	247.0	257.8	268.6	279.3	286.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	234.1	238.2	242.4	246.5	250.7	257.7	267.7	277.6	287.6	297.5	303.9
115°	269.2	272.1	275.0	277.9	280.9	286.9	296.0	305.2	314.3	323.5	330.0
117.5°	301.9	303.9	305.9	307.9	309.8	315.3	324.1	333.0	341.8	350.7	356.6
120°	323.2	324.5	325.8	327.1	328.3	333.1	341.4	349.7	358.0	366.3	372.3
122.5°	344.1	344.5	344.9	345.4	345.8	350.0	358.1	366.2	374.2	382.3	388.2
125°	372.6	372.8	372.8	373.0	373.1	376.7	383.7	390.8	397.8	404.8	410.6
127.5°	400.6	400.5	400.2	400.1	399.9	402.8	408.9	414.9	420.9	426.9	432.1
130°	417.8	417.6	417.4	417.3	417.1	419.5	424.4	429.3	434.2	439.2	444.5
132.5°	434.6	434.5	434.4	434.2	434.1	436.1	440.3	444.3	448.4	452.5	457.6
135°	458.4	458.3	458.2	458.0	458.0	459.1	461.5	464.0	466.4	468.9	473.7
137.5°	480.6	480.4	480.1	479.9	479.6	480.2	481.7	483.1	484.5	485.9	490.4
140°	495.1	495.0	495.0	494.9	494.8	495.0	495.5	495.9	496.4	497.0	501.0
142.5°	507.1	507.4	507.7	508.0	508.3	508.5	508.4	508.4	508.3	508.3	511.8
145°	526.8	526.8	526.8	526.9	526.9	526.9	526.9	526.9	526.9	526.9	528.7
147.5°	542.7	543.0	543.3	543.6	543.9	544.0	543.9	543.8	543.6	543.6	543.9
150°	554.2	554.4	554.5	554.6	554.7	554.8	554.6	554.6	554.5	554.3	554.3
152.5°	562.9	563.2	563.5	563.7	564.0	564.0	563.9	563.7	563.5	563.3	563.5
155°	576.3	576.3	576.4	576.5	576.7	576.5	576.3	575.9	575.6	575.3	575.7
157.5°	587.7	587.6	587.5	587.5	587.4	587.2	586.9	586.5	586.1	585.8	586.4
160°	594.4	594.0	593.7	593.5	593.1	592.9	592.8	592.7	592.6	592.5	593.1
162.5°	600.3	599.9	599.5	599.2	598.8	598.5	598.3	598.3	598.2	598.1	598.7
165°	607.8	607.3	606.8	606.3	605.8	605.5	605.5	605.5	605.5	605.5	606.3
167.5°	613.8	613.3	612.7	612.2	611.6	611.3	611.3	611.2	611.1	611.1	612.0
170°	617.2	616.5	615.9	615.3	614.7	614.4	614.5	614.6	614.7	614.8	615.6
172.5°	619.4	618.7	618.2	617.5	616.9	616.6	616.8	616.9	616.9	617.0	617.9
175°	621.8	621.2	620.5	620.0	619.3	619.1	619.1	619.3	619.4	619.5	620.4
177.5°	622.9	622.3	621.7	621.2	620.6	620.4	620.5	620.7	620.9	621.0	621.7
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	167.8	176.3	184.7	190.3	192.9	195.5	198.1	200.6
90°	157.1	166.2	175.1	180.9	183.4	186.0	188.5	191.0
92.5°	150.0	158.8	167.6	173.2	175.5	177.9	180.3	182.6
95°	140.4	148.8	157.2	162.8	165.5	168.2	170.9	173.7
97.5°	132.7	140.4	148.1	153.1	155.7	158.3	160.9	163.5
100°	131.5	137.5	143.7	147.7	149.9	152.0	154.1	156.2
102.5°	169.6	158.2	146.8	142.3	144.6	146.8	149.1	151.4
105°	247.4	255.5	263.7	267.1	265.6	264.2	262.9	261.5
107.5°	274.4	282.0	289.6	294.6	297.1	299.5	302.0	304.5
110°	293.0	299.9	306.7	311.5	314.1	316.7	319.4	322.0



TEST NUMBER: P332682-930

CATALOG NUMBER: SA4XXDIP-C1195D590U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	310.3	316.7	323.0	327.6	330.3	333.0	335.7	338.4
115°	336.6	343.2	349.8	354.1	356.1	358.2	360.1	362.2
117.5°	362.6	368.6	374.5	378.7	381.0	383.2	385.5	387.8
120°	378.3	384.3	390.3	394.3	396.4	398.5	400.6	402.8
122.5°	394.1	400.0	405.9	409.8	411.7	413.6	415.5	417.4
125°	416.4	422.2	428.0	431.9	433.7	435.5	437.3	439.2
127.5°	437.2	442.4	447.5	451.0	452.9	454.8	456.6	458.5
130°	449.8	455.1	460.5	464.0	465.7	467.4	469.2	470.9
132.5°	462.7	467.7	472.9	476.2	477.8	479.5	481.2	482.8
135°	478.6	483.4	488.2	491.6	493.6	495.5	497.4	499.4
137.5°	494.9	499.3	503.8	506.7	508.1	509.5	510.9	512.3
140°	505.1	509.2	513.2	516.1	517.6	519.2	520.7	522.3
142.5°	515.4	518.9	522.4	524.7	526.0	527.3	528.5	529.7
145°	530.6	532.5	534.3	535.9	537.3	538.6	540.0	541.4
147.5°	544.2	544.5	544.9	545.5	546.5	547.6	548.6	549.6
150°	554.3	554.3	554.3	554.4	554.5	554.6	554.7	554.8
152.5°	563.6	563.8	563.9	564.0	563.9	563.9	563.8	563.8
155°	576.1	576.5	576.9	577.0	576.7	576.3	576.1	575.8
157.5°	586.9	587.4	587.9	587.9	587.4	586.9	586.4	585.8
160°	593.7	594.4	595.0	595.0	594.4	593.7	593.1	592.5
162.5°	599.3	599.9	600.5	600.5	599.8	599.1	598.4	597.7
165°	607.2	608.0	608.9	608.8	607.8	606.9	606.0	605.0
167.5°	612.9	613.8	614.7	614.7	613.7	612.6	611.6	610.6
170°	616.4	617.3	618.2	618.0	617.0	616.0	614.9	613.9
172.5°	618.7	619.5	620.4	620.2	619.1	618.0	616.9	615.7
175°	621.3	622.2	623.2	623.1	621.8	620.5	619.3	618.1
177.5°	622.4	623.1	623.7	623.5	622.6	621.6	620.5	619.5
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8

(END OF REPORT)