

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: P332683-940

Luminaire Tested: **SA4XXDIP-C1195D590U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332683-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D590U940-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

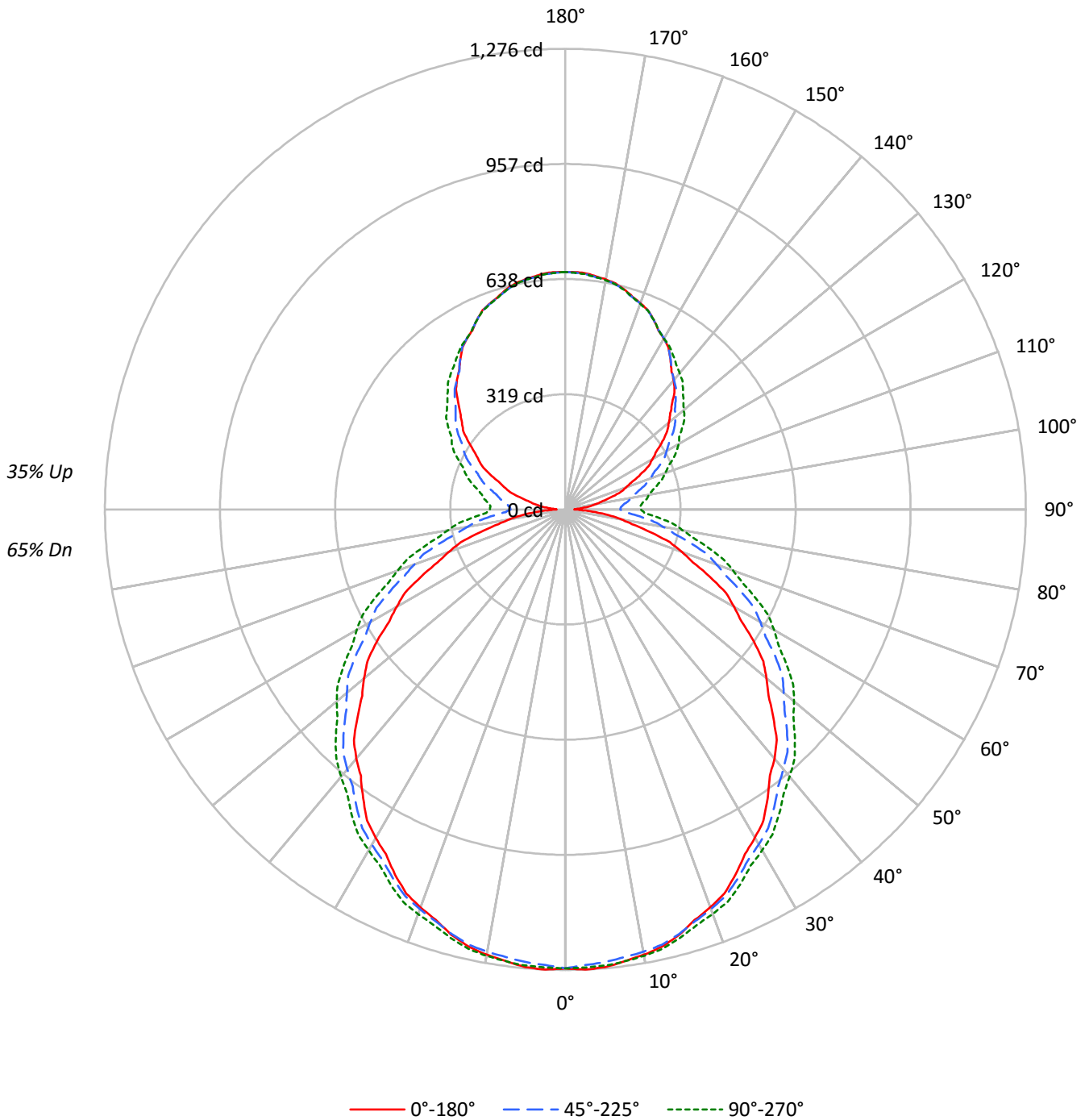
Lumens per Lamp: N/A
Luminaire Lumens: 6160.9 lumens
Efficiency: N/A
Efficacy: 111.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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	50	30	10	0	
RCR																						
0	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65				
1	100	95	90	86	94	89	85	82	79	76	73	69	66	64	60	58	57	52				
2	90	82	75	69	84	77	71	66	68	63	59	60	56	53	52	49	47	43				
3	82	72	64	57	77	68	60	54	60	54	49	52	48	44	45	42	39	35				
4	75	63	55	48	70	60	52	46	53	46	42	46	41	37	40	36	33	30				
5	69	56	47	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26				
6	63	50	42	35	59	48	40	34	42	36	31	37	32	28	33	28	25	22				
7	59	45	37	31	55	43	35	30	38	32	27	34	29	25	30	26	22	20				
8	54	41	33	27	51	39	32	26	35	29	24	31	26	22	27	23	20	18				
9	51	38	30	24	47	36	28	23	32	26	22	29	23	20	25	21	18	16				
10	47	35	27	22	44	33	26	21	30	24	19	26	21	18	23	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	2.0
10°-20°	345.0	5.6
20°-30°	521.7	8.5
30°-40°	631.2	10.2
40°-50°	667.3	10.8
50°-60°	628.0	10.2
60°-70°	521.0	8.5
70°-80°	366.0	5.9
80°-90°	208.9	3.4
90°-100°	166.2	2.7
100°-110°	219.4	3.6
110°-120°	279.1	4.5
120°-130°	322.0	5.2
130°-140°	337.8	5.5
140°-150°	320.4	5.2
150°-160°	266.9	4.3
160°-170°	177.6	2.9
170°-180°	62.2	1.0
0°-30°	987.1	16.0
0°-40°	1618.2	26.3
0°-60°	2913.5	47.3
0°-90°	4009.3	65.1
90°-120°	664.8	10.8
90°-150°	1644.9	26.7
90°-180°	2152.0	34.9
0°-180°	6160.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	24	87	152	195	209	17
95°	49	101	163	201	215	49
105°	131	162	215	251	265	140
115°	230	245	288	317	328	228
125°	329	329	362	387	396	293
135°	419	423	432	453	461	325
145°	508	508	508	516	521	318
155°	580	580	579	581	579	267
165°	631	630	629	631	630	178
175°	657	654	654	657	654	62
180°	658	658	658	658	658	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	42.4	55.6	68.8	81.9	95.1	108.7	122.7	136.8	150.8	164.9	174.2
90°	24.3	38.2	52.1	66.0	79.9	94.1	108.6	123.1	137.7	152.1	162.0
92.5°	32.5	45.3	58.1	71.0	83.8	97.3	111.6	125.8	140.0	154.3	163.6
95°	49.0	60.5	72.0	83.4	94.9	107.5	121.3	135.0	148.7	162.6	171.4
97.5°	70.1	79.9	89.7	99.5	109.3	121.1	134.8	148.6	162.4	176.2	184.9
100°	86.9	95.5	104.2	112.9	121.5	132.6	146.0	159.3	172.6	186.0	194.8
102.5°	105.6	113.0	120.4	127.8	135.2	145.3	158.4	171.4	184.4	197.4	206.0
105°	131.3	137.8	144.2	150.6	157.1	166.4	178.5	190.7	202.9	215.0	223.3
107.5°	161.0	166.4	171.7	177.0	182.4	190.6	201.7	212.9	224.0	235.1	243.3
110°	180.2	184.9	189.6	194.2	198.9	206.7	217.7	228.6	239.6	250.5	257.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	200.3	204.2	208.2	212.1	216.2	223.3	233.6	244.1	254.4	264.7	271.7
115°	230.3	233.1	235.9	238.8	241.7	248.1	258.0	267.9	277.8	287.7	294.5
117.5°	259.9	261.7	263.5	265.3	267.1	272.6	281.9	291.1	300.4	309.7	315.9
120°	278.7	280.1	281.5	282.9	284.3	289.4	298.3	307.1	315.9	324.8	330.6
122.5°	299.4	299.8	300.2	300.6	301.0	305.4	313.9	322.4	330.9	339.4	345.4
125°	328.7	328.3	328.0	327.7	327.3	331.1	338.9	346.7	354.5	362.3	368.1
127.5°	356.1	356.1	356.1	356.2	356.2	359.2	365.1	371.0	376.8	382.7	388.3
130°	374.5	374.5	374.6	374.6	374.6	377.2	382.2	387.3	392.4	397.4	402.9
132.5°	394.5	394.4	394.3	394.2	394.2	396.1	400.1	404.0	408.0	412.0	417.2
135°	419.4	420.1	420.7	421.4	422.1	423.6	425.8	427.9	430.2	432.4	437.2
137.5°	448.1	448.1	448.1	448.1	448.1	448.7	450.0	451.2	452.5	453.7	458.1
140°	467.2	467.1	467.0	466.9	466.8	466.9	467.3	467.6	467.9	468.2	472.2
142.5°	483.6	483.7	483.8	484.0	484.2	484.1	483.8	483.6	483.3	483.0	486.6
145°	507.5	507.6	507.7	507.9	508.0	508.1	508.3	508.4	508.5	508.5	510.4
147.5°	531.5	531.7	531.9	532.2	532.4	532.4	532.4	532.3	532.2	532.1	532.3
150°	546.1	546.3	546.4	546.5	546.6	546.7	546.7	546.7	546.7	546.7	546.7
152.5°	558.8	559.0	559.2	559.5	559.6	559.8	559.9	560.0	560.1	560.2	560.4
155°	579.8	579.8	579.8	579.8	579.8	579.7	579.6	579.5	579.4	579.3	579.7
157.5°	597.7	597.4	597.3	597.1	596.9	596.7	596.7	596.7	596.7	596.6	597.0
160°	608.2	608.1	608.1	608.0	607.8	607.7	607.6	607.5	607.3	607.3	607.6
162.5°	618.0	617.8	617.4	617.2	616.9	616.6	616.5	616.4	616.4	616.2	616.8
165°	631.2	630.8	630.4	630.2	629.8	629.5	629.3	629.1	628.8	628.7	629.3
167.5°	641.2	640.8	640.2	639.8	639.4	639.1	639.1	639.2	639.2	639.2	639.9
170°	646.9	646.4	645.8	645.2	644.6	644.4	644.5	644.6	644.8	644.9	645.6
172.5°	650.9	650.5	650.1	649.6	649.1	648.9	648.9	648.9	648.9	649.0	649.7
175°	656.6	656.0	655.5	654.9	654.3	654.0	653.9	653.8	653.6	653.5	654.3
177.5°	658.4	658.0	657.5	657.1	656.6	656.4	656.4	656.4	656.4	656.4	657.0
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	183.5	192.8	202.1	208.1	211.0	213.8	216.7	219.5
90°	171.8	181.7	191.5	197.9	200.6	203.4	206.2	208.9
92.5°	172.9	182.3	191.6	197.6	200.3	203.0	205.6	208.2
95°	180.3	189.2	198.0	203.9	206.8	209.6	212.5	215.3
97.5°	193.6	202.2	211.0	216.7	219.4	222.1	224.8	227.6
100°	203.6	212.3	221.1	226.6	228.8	231.0	233.3	235.5
102.5°	214.6	223.3	231.8	237.5	240.0	242.5	245.1	247.6
105°	231.5	239.8	248.0	253.6	256.5	259.3	262.2	265.0
107.5°	251.4	259.4	267.5	272.7	275.0	277.2	279.5	281.8
110°	264.7	271.7	278.7	283.7	286.6	289.4	292.3	295.2



TEST NUMBER: P332683-940

CATALOG NUMBER: SA4XXDIP-C1195D590U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	278.7	285.7	292.7	297.5	300.1	302.6	305.2	307.9
115°	301.3	308.2	315.0	319.5	321.6	323.7	325.8	327.9
117.5°	322.1	328.3	334.5	338.8	341.1	343.4	345.7	347.9
120°	336.3	342.1	347.9	352.0	354.8	357.6	360.3	363.1
122.5°	351.3	357.2	363.2	367.1	369.0	370.9	372.7	374.6
125°	373.9	379.7	385.5	389.1	390.8	392.5	394.2	395.9
127.5°	393.7	399.1	404.7	408.3	410.4	412.3	414.3	416.3
130°	408.3	413.8	419.3	422.8	424.2	425.6	427.0	428.6
132.5°	422.4	427.7	432.8	436.3	438.0	439.7	441.5	443.2
135°	442.1	446.9	451.7	455.0	456.5	458.1	459.6	461.2
137.5°	462.4	466.7	471.0	474.0	475.6	477.3	478.9	480.6
140°	476.2	480.2	484.2	487.0	488.4	489.9	491.3	492.8
142.5°	490.2	493.7	497.4	499.8	501.1	502.4	503.7	505.1
145°	512.2	514.0	515.8	517.1	518.0	519.0	519.9	520.8
147.5°	532.4	532.5	532.7	533.2	534.1	535.0	536.0	536.9
150°	546.7	546.7	546.7	546.7	546.5	546.4	546.4	546.3
152.5°	560.7	561.0	561.2	561.2	561.0	560.6	560.4	560.1
155°	580.1	580.6	581.1	581.1	580.6	580.1	579.7	579.3
157.5°	597.4	597.7	598.1	598.0	597.6	597.3	596.8	596.5
160°	608.0	608.2	608.6	608.5	608.0	607.3	606.8	606.3
162.5°	617.4	618.0	618.7	618.7	618.1	617.5	617.0	616.4
165°	630.0	630.6	631.3	631.4	631.0	630.5	630.1	629.6
167.5°	640.5	641.2	641.9	641.9	641.2	640.5	639.8	639.1
170°	646.2	646.9	647.6	647.6	646.8	646.0	645.2	644.4
172.5°	650.5	651.3	652.0	652.0	651.2	650.4	649.6	648.9
175°	655.1	655.9	656.7	656.7	655.9	655.1	654.3	653.5
177.5°	657.6	658.3	658.9	658.9	658.2	657.5	656.7	655.9
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6

(END OF REPORT)