

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: P332693-940

Luminaire Tested: **SA4XXDIP-C1195D810U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332693-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D810U940-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

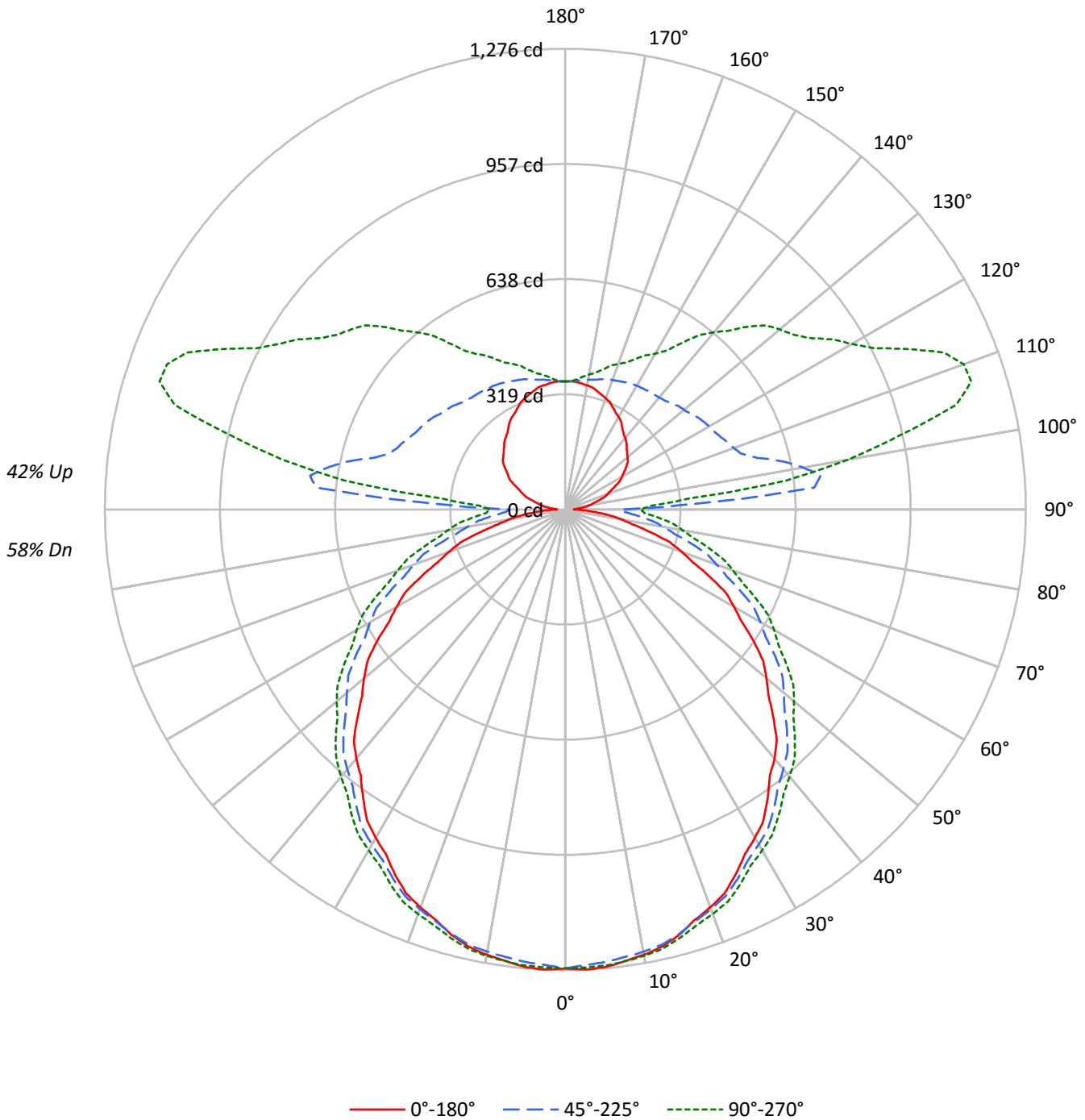
Lumens per Lamp: N/A
Luminaire Lumens: 6917.6 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 60.7
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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58				
1	98	94	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	46				
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	44	42	38				
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	35	32				
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27				
5	68	55	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23				
6	62	50	41	35	58	46	39	33	41	34	30	35	30	26	30	26	23	20				
7	58	45	36	31	53	42	34	29	37	31	26	32	27	23	27	23	20	18				
8	53	41	33	27	50	38	31	26	33	27	23	29	24	21	25	21	18	16				
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14				
10	46	34	26	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13				

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	1.7
10°-20°	345.0	5.0
20°-30°	521.7	7.5
30°-40°	631.2	9.1
40°-50°	667.3	9.6
50°-60°	628.0	9.1
60°-70°	521.0	7.5
70°-80°	366.0	5.3
80°-90°	208.9	3.0
90°-100°	379.2	5.5
100°-110°	624.4	9.0
110°-120°	538.9	7.8
120°-130°	436.4	6.3
130°-140°	350.0	5.1
140°-150°	259.1	3.7
150°-160°	180.0	2.6
160°-170°	105.9	1.5
170°-180°	34.4	0.5
0°-30°	987.1	14.3
0°-40°	1618.2	23.4
0°-60°	2913.5	42.1
0°-90°	4009.3	58.0
90°-120°	1542.5	22.3
90°-150°	2588.0	37.4
90°-180°	2908.0	42.0
0°-180°	6917.6	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	86	154	194	208	16
95°	42	139	692	442	345	41
105°	94	161	551	1113	1122	101
115°	152	203	475	881	1050	151
125°	206	244	446	733	827	184
135°	241	286	415	627	716	186
145°	275	314	400	508	563	173
155°	312	336	389	441	460	144
165°	340	350	373	395	401	96
175°	354	355	358	363	361	34
180°	355	355	355	355	355	



TEST NUMBER: P332693-940

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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°	42.3	55.5	68.8	81.9	94.9	108.3	123.0	136.9	151.0	165.1	174.2
90°	23.5	37.5	52.3	65.6	79.0	92.1	109.9	123.5	138.5	153.6	162.0
92.5°	29.6	44.6	62.6	82.5	104.1	131.0	180.0	247.8	314.1	355.3	327.3
95°	41.6	54.0	71.4	91.0	118.2	159.2	232.7	360.1	539.8	692.1	716.8
97.5°	58.1	67.1	82.0	99.4	122.8	158.2	217.8	325.0	503.5	713.5	857.4
100°	68.7	76.9	90.0	106.6	128.0	160.7	214.1	305.2	459.9	668.8	855.9
102.5°	79.8	88.1	99.7	114.7	134.6	165.4	214.8	296.1	429.3	615.7	808.1
105°	94.4	102.8	112.6	127.3	146.2	175.4	220.6	290.2	399.5	551.3	723.2
107.5°	113.3	119.9	128.6	142.8	159.9	188.0	229.7	293.6	388.0	511.8	653.4
110°	125.0	130.9	138.8	151.6	168.5	195.1	236.9	296.8	384.5	496.7	617.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	136.2	141.5	149.5	161.2	177.6	203.8	243.9	300.4	382.7	486.0	594.4
115°	152.2	157.1	164.9	174.7	190.7	216.1	254.0	306.0	381.0	474.8	569.6
117.5°	170.3	174.0	179.9	189.4	203.5	228.5	264.5	312.5	380.0	465.6	553.5
120°	181.5	183.8	189.6	198.2	211.1	235.6	271.3	316.7	379.6	459.9	543.6
122.5°	192.6	194.2	199.2	206.5	219.7	243.1	278.3	320.9	379.4	453.6	533.4
125°	205.8	208.3	212.1	219.5	232.5	255.7	288.7	328.8	380.6	445.7	518.6
127.5°	218.5	220.4	225.1	233.5	247.1	269.6	300.0	335.5	379.9	435.6	499.9
130°	224.6	227.1	232.4	242.5	255.4	278.0	306.7	339.0	379.7	429.4	488.0
132.5°	231.8	233.8	240.7	250.3	264.3	285.3	313.1	343.8	380.0	424.2	477.6
135°	240.6	243.4	250.4	262.3	276.9	296.1	321.3	348.7	379.4	415.1	460.7
137.5°	250.7	253.2	260.5	271.4	286.3	304.0	326.5	351.1	377.6	408.4	446.4
140°	258.1	259.8	267.2	278.7	293.0	309.8	331.0	353.7	377.6	404.5	438.5
142.5°	264.7	266.7	273.8	285.0	299.1	315.1	335.3	355.7	378.1	402.2	432.4
145°	275.4	277.2	283.8	293.3	306.2	321.5	339.6	358.4	378.6	400.2	424.5
147.5°	287.8	288.2	294.1	303.8	314.5	328.1	345.2	361.6	379.3	397.7	417.6
150°	295.7	296.0	301.3	309.3	319.5	332.6	347.9	363.3	379.3	396.0	413.5
152.5°	301.8	301.8	307.4	315.1	324.4	336.5	350.2	364.4	378.2	393.2	409.0
155°	311.7	312.4	316.6	323.5	331.2	341.6	353.5	365.3	376.5	389.1	402.3
157.5°	321.6	321.6	325.5	330.9	337.6	345.8	355.9	365.3	374.7	384.8	395.5
160°	327.7	327.7	330.5	335.4	341.0	348.7	357.0	365.3	373.0	381.4	390.5
162.5°	333.3	332.7	334.9	339.3	344.3	350.3	358.1	365.3	371.4	378.1	386.0
165°	339.6	339.6	341.0	344.5	347.9	352.1	358.4	364.0	368.2	373.0	378.6
167.5°	345.8	345.2	345.8	348.5	350.4	353.7	358.3	362.3	364.8	368.0	371.9
170°	348.7	347.9	348.7	350.7	352.1	354.2	357.7	361.1	362.6	364.6	367.5
172.5°	351.4	350.7	350.9	352.4	353.2	354.7	357.1	360.1	360.3	361.3	363.6
175°	354.2	353.5	353.5	354.2	354.9	354.9	356.3	358.4	357.7	357.7	359.1
177.5°	355.4	354.9	354.4	354.9	354.9	354.9	355.4	356.6	355.4	355.4	356.0
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9



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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	213.9	216.6	219.4
90°	171.8	181.7	191.6	197.4	200.7	203.9	205.7	208.3
92.5°	288.9	263.9	251.8	243.6	237.9	236.7	236.8	239.3
95°	657.6	558.1	473.2	411.3	380.0	361.1	351.5	345.3
97.5°	895.0	863.1	803.2	735.9	688.6	649.3	631.2	619.4
100°	966.2	988.6	963.0	916.9	858.4	818.1	799.3	796.0
102.5°	956.1	1033.5	1051.7	1035.6	1000.9	972.5	953.0	950.9
105°	890.7	1019.2	1096.2	1130.0	1133.9	1130.9	1123.6	1122.0
107.5°	802.5	938.8	1043.7	1111.0	1147.7	1165.9	1175.2	1179.2
110°	749.0	876.9	985.3	1066.9	1118.9	1150.8	1165.8	1174.7



TEST NUMBER: P332693-940

CATALOG NUMBER: SA4XXDIP-C1195D810U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	707.7	821.4	924.0	1005.4	1064.2	1102.1	1122.2	1134.9
115°	663.8	756.4	845.0	916.5	973.8	1017.9	1042.4	1050.2
117.5°	637.1	714.7	785.4	846.8	896.3	934.0	959.0	965.9
120°	623.1	694.3	756.4	810.4	852.7	885.8	906.5	916.7
122.5°	610.7	679.7	736.8	784.4	820.4	848.8	866.5	876.4
125°	591.6	657.5	711.7	753.9	783.7	805.8	821.0	827.1
127.5°	568.5	631.4	685.1	725.4	755.6	775.8	789.1	795.4
130°	551.6	612.3	665.5	706.2	736.7	756.1	769.1	775.2
132.5°	534.8	592.0	643.7	684.4	714.3	735.8	748.3	754.4
135°	509.6	560.0	607.6	646.0	675.7	697.1	710.2	716.3
137.5°	487.5	530.5	571.0	605.6	633.2	654.1	664.9	671.5
140°	474.7	511.7	547.2	579.3	605.2	622.1	633.5	640.7
142.5°	463.7	496.1	526.6	554.5	577.5	593.0	603.0	608.2
145°	448.6	474.2	497.0	518.2	536.9	550.0	558.2	562.9
147.5°	436.3	455.4	472.3	488.3	502.2	513.4	519.7	521.9
150°	430.2	446.2	460.2	472.7	483.9	492.9	497.1	497.8
152.5°	424.1	437.8	450.7	461.0	470.5	477.9	480.4	481.1
155°	414.8	426.1	436.5	444.9	451.8	457.4	459.5	459.5
157.5°	404.9	414.3	423.1	429.8	435.1	439.3	440.5	440.5
160°	398.9	406.5	414.2	419.7	423.9	428.1	428.8	428.8
162.5°	392.7	399.2	405.3	410.3	413.3	417.5	418.2	417.7
165°	384.1	388.3	393.2	396.7	399.5	402.3	401.6	400.9
167.5°	375.9	379.2	383.1	385.1	386.6	388.3	388.3	387.6
170°	371.0	373.0	375.9	377.9	379.3	380.0	379.3	379.3
172.5°	366.5	368.0	369.7	371.2	372.0	372.7	372.0	371.0
175°	360.5	361.1	362.6	362.6	362.6	364.0	362.6	361.1
177.5°	356.6	357.1	357.1	357.7	357.1	357.7	356.6	355.4
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9

(END OF REPORT)