

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: P332673-940

Luminaire Tested: **SA4XXDIP-C1195D365U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332673-940
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-C1195D365U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

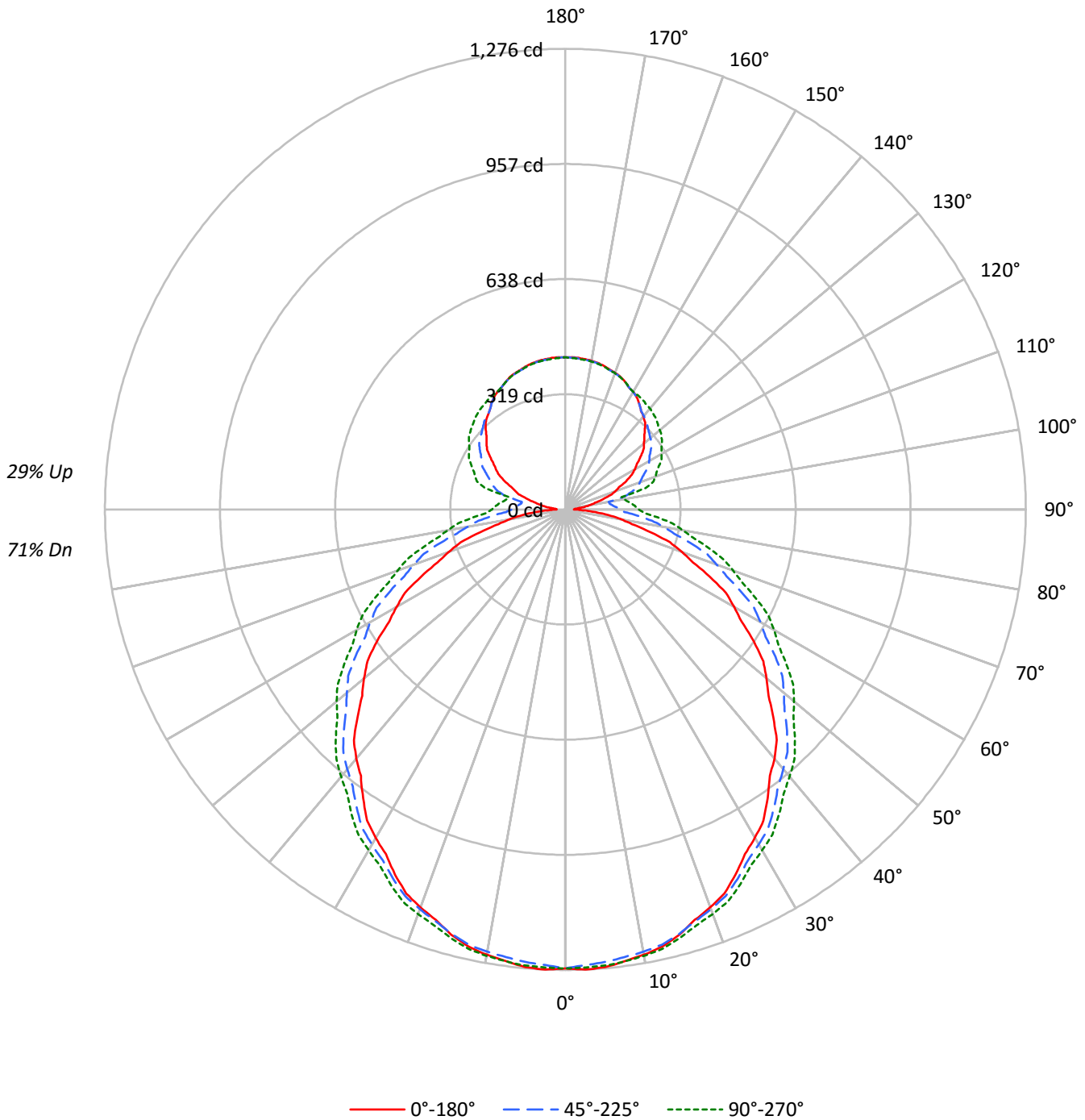
Lumens per Lamp: N/A
Luminaire Lumens: 5639.1 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 49.8
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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	75	75	75	71	
1	101	96	91	87	95	91	87	83	81	78	75	73	70	68	64	63	61	61	61	61	57	
2	91	83	76	70	86	79	72	67	70	65	61	63	59	56	56	53	50	50	50	50	46	
3	83	73	64	58	78	69	61	55	62	56	51	55	50	46	49	45	42	42	42	42	39	
4	76	64	55	49	71	61	53	47	55	48	43	49	44	39	44	39	36	36	36	36	33	
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	35	31	31	31	31	28	
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	27	27	27	24	
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	28	24	24	24	24	22	
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	30	25	21	21	21	21	19	
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	19	19	19	17	
10	48	35	27	22	45	34	26	22	31	24	20	28	23	19	25	21	17	17	17	17	16	

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



TEST NUMBER: P332673-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	2.1
10°-20°	345.0	6.1
20°-30°	521.7	9.3
30°-40°	631.2	11.2
40°-50°	667.3	11.8
50°-60°	628.0	11.1
60°-70°	521.0	9.2
70°-80°	366.0	6.5
80°-90°	208.1	3.7
90°-100°	137.3	2.4
100°-110°	182.8	3.2
110°-120°	236.8	4.2
120°-130°	257.6	4.6
130°-140°	253.6	4.5
140°-150°	226.2	4.0
150°-160°	180.0	3.2
160°-170°	116.1	2.1
170°-180°	40.0	0.7
0°-30°	987.1	17.5
0°-40°	1618.2	28.7
0°-60°	2913.5	51.7
0°-90°	4008.6	71.1
90°-120°	556.9	9.9
90°-150°	1294.3	23.0
90°-180°	1631.0	28.9
0°-180°	5639.1	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	84	148	189	203	16
95°	36	73	131	170	184	37
105°	108	139	192	229	231	114
115°	186	201	245	275	287	183
125°	255	256	289	316	326	228
135°	312	312	323	345	355	240
145°	358	357	357	366	372	224
155°	390	391	390	391	390	180
165°	412	410	410	413	410	116
175°	421	420	420	422	419	40
180°	421	421	421	421	421	



TEST NUMBER: P332673-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D

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	55.4	68.5	81.5	94.6	108.1	122.1	136.1	150.0	164.0	173.3
90°	23.7	37.2	50.6	64.0	77.4	91.2	105.4	119.6	133.8	147.9	157.5
92.5°	25.6	37.0	48.5	59.9	71.3	84.2	98.4	112.4	126.6	140.8	150.2
95°	35.8	43.9	52.0	60.0	68.1	78.6	91.7	104.7	117.8	130.8	139.7
97.5°	53.6	64.1	74.5	85.0	95.5	103.3	108.3	113.3	118.3	123.4	131.7
100°	67.3	76.9	86.3	95.8	105.3	111.4	114.0	116.7	119.4	122.1	129.5
102.5°	84.0	92.1	100.2	108.4	116.5	126.0	136.9	147.7	158.5	169.3	164.8
105°	107.6	114.4	121.2	128.0	134.6	144.1	156.1	168.2	180.2	192.3	200.8
107.5°	132.1	137.4	142.9	148.2	153.6	162.1	173.6	185.2	196.8	208.3	216.4
110°	147.5	152.2	156.9	161.5	166.1	174.2	185.7	197.2	208.7	220.2	227.6



TEST NUMBER: P332673-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	162.6	166.8	171.1	175.4	179.8	187.3	198.0	208.8	219.5	230.3	237.3
115°	185.7	188.7	191.8	194.8	197.9	204.5	214.5	224.5	234.6	244.7	251.7
117.5°	207.8	209.7	211.7	213.7	215.7	221.5	231.0	240.7	250.2	259.8	266.4
120°	221.8	222.9	224.2	225.4	226.7	231.8	240.9	250.0	259.1	268.2	274.7
122.5°	235.9	236.2	236.6	236.9	237.3	241.8	250.6	259.4	268.1	276.9	283.3
125°	254.7	254.6	254.6	254.6	254.5	258.4	266.2	273.9	281.7	289.4	295.7
127.5°	273.6	273.3	273.0	272.8	272.5	275.6	282.0	288.4	294.8	301.2	306.8
130°	284.7	284.5	284.3	284.0	283.7	286.2	291.6	296.9	302.1	307.4	313.2
132.5°	296.1	295.9	295.7	295.5	295.3	297.4	301.8	306.0	310.3	314.7	320.2
135°	311.7	311.7	311.6	311.5	311.4	312.6	315.1	317.6	320.1	322.6	327.8
137.5°	326.7	326.5	326.2	325.9	325.6	326.2	327.5	329.0	330.3	331.7	336.4
140°	336.6	336.4	336.3	336.1	335.9	336.0	336.4	336.9	337.4	337.9	342.1
142.5°	344.3	344.5	344.6	344.8	345.0	345.1	345.0	344.8	344.7	344.6	348.4
145°	357.6	357.4	357.3	357.2	357.1	357.0	357.0	357.0	357.0	357.0	359.0
147.5°	368.3	368.4	368.5	368.5	368.6	368.6	368.5	368.5	368.4	368.4	368.6
150°	376.1	376.1	376.0	376.0	375.9	375.9	375.9	375.8	375.7	375.7	375.7
152.5°	381.6	381.7	381.8	382.0	382.2	382.2	382.1	381.9	381.8	381.7	381.8
155°	390.5	390.6	390.6	390.7	390.7	390.7	390.5	390.2	390.0	389.9	390.1
157.5°	398.2	398.1	398.1	398.1	398.1	397.9	397.7	397.4	397.2	397.0	397.3
160°	402.8	402.5	402.3	402.2	401.9	401.8	401.7	401.6	401.5	401.4	401.9
162.5°	406.8	406.5	406.3	406.0	405.7	405.6	405.5	405.4	405.4	405.3	405.7
165°	411.9	411.5	411.2	410.8	410.5	410.3	410.3	410.3	410.3	410.3	410.9
167.5°	415.9	415.5	415.2	414.8	414.5	414.3	414.2	414.2	414.1	414.1	414.7
170°	418.2	417.8	417.3	417.0	416.5	416.3	416.4	416.5	416.5	416.6	417.1
172.5°	419.7	419.3	418.8	418.5	418.0	417.9	417.9	418.0	418.0	418.1	418.7
175°	421.3	420.9	420.5	420.1	419.6	419.5	419.5	419.6	419.7	419.7	420.4
177.5°	422.1	421.7	421.3	420.9	420.5	420.4	420.5	420.6	420.7	420.8	421.3
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3



TEST NUMBER: P332673-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D

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°	182.5	191.8	201.1	207.1	209.9	212.7	215.5	218.3
90°	167.1	176.6	186.3	192.4	195.1	197.8	200.5	203.1
92.5°	159.5	168.8	178.2	184.1	186.7	189.2	191.8	194.4
95°	148.7	157.7	166.7	172.6	175.5	178.4	181.4	184.3
97.5°	140.0	148.4	156.7	162.3	165.1	167.8	170.7	173.4
100°	136.8	144.1	151.5	156.3	158.6	160.9	163.2	165.4
102.5°	160.2	155.7	151.1	150.1	152.6	155.1	157.6	160.0
105°	209.4	217.9	226.5	230.8	230.8	230.8	230.8	230.8
107.5°	224.5	232.6	240.7	246.0	248.5	251.1	253.6	256.2
110°	235.0	242.4	249.8	254.9	257.6	260.4	263.1	265.8



TEST NUMBER: P332673-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	244.3	251.3	258.3	263.2	266.0	268.8	271.6	274.4
115°	258.9	266.0	273.0	277.8	279.9	282.1	284.4	286.6
117.5°	273.0	279.5	286.1	290.5	293.1	295.6	298.1	300.6
120°	281.2	287.7	294.1	298.5	301.0	303.4	305.7	308.1
122.5°	289.7	296.1	302.6	306.8	309.0	311.1	313.3	315.4
125°	301.9	308.1	314.3	318.4	320.4	322.4	324.3	326.3
127.5°	312.5	318.2	323.9	327.7	329.8	331.9	333.9	336.1
130°	318.9	324.7	330.5	334.3	336.2	338.0	339.9	341.9
132.5°	325.7	331.2	336.7	340.4	342.2	344.1	345.9	347.8
135°	333.0	338.2	343.4	347.1	349.1	351.1	353.1	355.2
137.5°	341.3	346.0	350.8	353.9	355.4	357.0	358.6	360.1
140°	346.5	350.8	355.2	358.1	359.8	361.4	363.1	364.7
142.5°	352.1	355.9	359.7	362.2	363.6	364.9	366.2	367.7
145°	361.0	362.9	364.9	366.6	368.0	369.4	370.9	372.2
147.5°	369.0	369.3	369.6	370.2	371.4	372.5	373.5	374.6
150°	375.7	375.7	375.7	375.7	375.8	375.9	375.9	375.9
152.5°	381.9	382.0	382.2	382.2	382.1	382.1	382.1	382.0
155°	390.4	390.7	390.9	391.0	390.7	390.6	390.4	390.1
157.5°	397.7	398.1	398.4	398.4	398.1	397.7	397.3	397.0
160°	402.3	402.8	403.1	403.1	402.8	402.3	401.9	401.4
162.5°	406.1	406.5	407.0	406.9	406.4	406.0	405.5	405.0
165°	411.4	412.0	412.6	412.5	411.9	411.3	410.6	410.0
167.5°	415.4	416.0	416.5	416.5	415.8	415.1	414.4	413.8
170°	417.8	418.3	418.8	418.7	418.1	417.4	416.7	416.0
172.5°	419.3	419.8	420.4	420.3	419.5	418.7	418.0	417.2
175°	421.1	421.7	422.3	422.2	421.3	420.5	419.6	418.8
177.5°	421.8	422.2	422.7	422.5	421.9	421.2	420.5	419.8
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3

(END OF REPORT)