

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

Luminaire Tested: **SA4XXDIP-C1195D590U835-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332683
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-C1195D590U835-4F0-1E-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

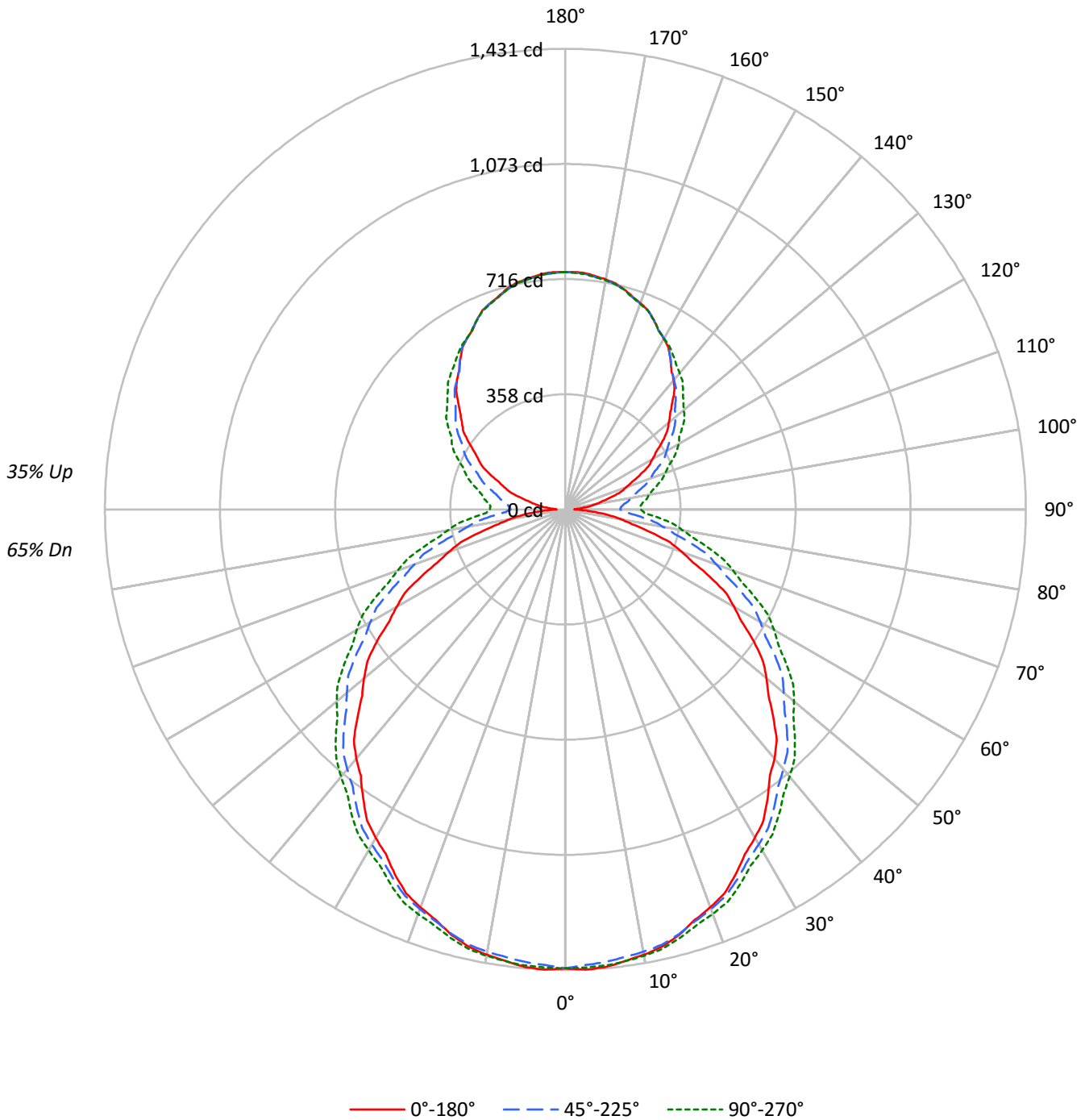
Lumens per Lamp: N/A
Luminaire Lumens: 6909.1 lumens
Efficiency: N/A
Efficacy: 125.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

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°	11512	11512	11512
5°	11547	11251	11283
10°	11477	11067	11058
15°	11374	10854	10794
20°	11219	10619	10537
25°	11044	10355	10254
30°	10854	10093	9964
35°	10640	9824	9710
40°	10469	9569	9445
45°	10215	9334	9218
50°	10000	9062	8977
55°	9778	8806	8695
60°	9431	8480	8438
65°	9051	8130	8122
70°	8591	7730	7753
75°	7950	7291	7421
80°	7239	6868	7093
85°	6329	6495	6901



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.0	2.0
10°-20°	386.9	5.6
20°-30°	585.0	8.5
30°-40°	707.8	10.2
40°-50°	748.3	10.8
50°-60°	704.2	10.2
60°-70°	584.3	8.5
70°-80°	410.4	5.9
80°-90°	234.2	3.4
90°-100°	186.4	2.7
100°-110°	246.1	3.6
110°-120°	313.0	4.5
120°-130°	361.1	5.2
130°-140°	378.9	5.5
140°-150°	359.3	5.2
150°-160°	299.3	4.3
160°-170°	199.1	2.9
170°-180°	69.7	1.0
0°-30°	1106.9	16.0
0°-40°	1814.7	26.3
0°-60°	3267.3	47.3
0°-90°	4496.2	65.1
90°-120°	745.5	10.8
90°-150°	1844.7	26.7
90°-180°	2413.0	34.9
0°-180°	6909.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1428	1422	1412	1424	1423	135
15°	1368	1370	1365	1379	1378	385
25°	1252	1261	1266	1283	1285	576
35°	1095	1114	1130	1152	1158	686
45°	913	944	974	1000	1009	706
55°	715	750	797	828	838	637
65°	495	546	600	639	653	490
75°	275	334	401	444	460	292
85°	85	152	224	270	287	90
90°	27	98	171	218	234	19
95°	55	113	182	225	242	55
105°	147	181	241	281	297	157
115°	258	275	323	356	368	255
125°	369	369	406	434	444	329
135°	470	474	485	508	517	364
145°	569	570	570	579	584	356
155°	650	650	650	652	650	299
165°	708	706	705	708	706	199
175°	736	734	733	736	733	70
180°	738	738	738	738	738	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1431.1	1430.2	1429.4	1428.5	1427.7	1426.1	1423.8	1421.6	1419.3	1417.0	1419.0
5°	1427.5	1426.5	1425.4	1424.4	1423.3	1421.5	1419.0	1416.5	1414.1	1411.6	1414.4
7.5°	1415.4	1414.8	1414.1	1413.5	1412.9	1411.5	1409.5	1407.4	1405.3	1403.3	1406.5
10°	1405.2	1404.8	1404.5	1404.1	1403.8	1402.7	1400.9	1399.2	1397.4	1395.6	1398.8
12.5°	1391.1	1391.1	1391.0	1390.9	1390.9	1390.2	1389.0	1387.8	1386.6	1385.4	1388.3
15°	1368.5	1368.8	1369.2	1369.5	1369.9	1369.5	1368.5	1367.4	1366.3	1365.3	1368.5
17.5°	1337.5	1338.6	1339.6	1340.7	1341.7	1342.2	1342.0	1341.7	1341.5	1341.3	1344.6
20°	1315.8	1316.8	1317.9	1319.0	1320.0	1320.7	1321.1	1321.5	1321.8	1322.2	1325.7
22.5°	1291.5	1292.8	1294.2	1295.5	1296.9	1297.9	1298.5	1299.2	1299.8	1300.4	1304.0
25°	1251.9	1254.0	1256.2	1258.3	1260.4	1262.0	1263.1	1264.1	1265.2	1266.3	1270.2
27.5°	1207.8	1211.0	1214.1	1217.2	1220.3	1222.7	1224.3	1226.0	1227.6	1229.2	1232.8
30°	1178.4	1181.3	1184.1	1187.0	1189.8	1192.5	1194.9	1197.4	1199.9	1202.4	1206.3
32.5°	1146.5	1149.9	1153.3	1156.7	1160.1	1163.2	1166.0	1168.8	1171.5	1174.3	1178.8
35°	1095.4	1099.7	1103.9	1108.2	1112.4	1116.3	1119.9	1123.4	1127.0	1130.5	1135.5
37.5°	1044.0	1048.9	1053.8	1058.7	1063.6	1068.2	1072.6	1077.0	1081.4	1085.8	1090.9
40°	1010.8	1015.4	1020.0	1024.6	1029.2	1034.0	1039.0	1044.0	1048.9	1053.9	1059.2
42.5°	972.5	977.6	982.8	988.0	993.2	998.7	1004.5	1010.3	1016.1	1022.0	1027.9
45°	913.4	920.1	926.9	933.6	940.3	947.1	953.8	960.6	967.3	974.1	980.1
47.5°	856.8	863.8	870.8	877.7	884.7	892.1	899.9	907.7	915.5	923.3	929.5
50°	816.0	823.8	831.6	839.4	847.2	855.0	862.8	870.6	878.4	886.2	893.3
52.5°	775.1	782.9	790.7	798.5	806.3	814.7	823.6	832.6	841.5	850.5	857.6
55°	715.4	722.8	730.3	737.7	745.2	754.2	764.9	775.5	786.2	796.8	803.9
57.5°	648.6	657.9	667.1	676.3	685.5	695.4	706.0	716.6	727.2	737.7	746.2
60°	605.2	614.4	623.6	632.9	642.1	652.6	664.3	676.0	687.7	699.4	707.6
62.5°	563.0	573.1	583.2	593.3	603.3	614.2	626.0	637.7	649.4	661.1	669.2
65°	495.0	506.4	517.7	529.1	540.4	552.1	564.2	576.3	588.3	600.4	609.3
67.5°	429.5	441.6	453.7	465.7	477.8	490.3	503.2	516.1	529.0	542.0	551.0
70°	384.8	396.9	409.0	421.0	433.1	445.9	459.3	472.8	486.3	499.8	509.4
72.5°	341.4	353.7	366.1	378.4	390.8	404.1	418.5	432.8	447.1	461.5	470.8
75°	274.7	287.8	300.9	314.0	327.2	341.2	356.1	371.0	385.9	400.8	410.7
77.5°	212.4	226.3	240.2	254.1	268.0	282.8	298.4	314.0	329.6	345.2	355.3
80°	174.1	188.2	202.4	216.6	230.8	245.7	261.3	277.0	292.6	308.2	318.8
82.5°	135.7	150.5	165.3	180.0	194.8	210.0	225.6	241.2	256.8	272.4	283.3
85°	84.6	99.5	114.4	129.3	144.2	159.7	175.6	191.6	207.6	223.6	234.2
87.5°	47.6	62.4	77.1	91.9	106.6	121.9	137.6	153.4	169.1	184.9	195.3
90°	27.3	42.8	58.4	74.0	89.6	105.5	121.8	138.1	154.4	170.6	181.7
92.5°	36.5	50.8	65.2	79.6	94.0	109.1	125.1	141.1	157.0	173.0	183.5
95°	55.0	67.8	80.7	93.5	106.4	120.5	136.0	151.4	166.8	182.3	192.2
97.5°	78.6	89.6	100.6	111.6	122.6	135.8	151.2	166.7	182.1	197.6	207.3
100°	97.4	107.1	116.9	126.6	136.3	148.7	163.7	178.7	193.6	208.6	218.5
102.5°	118.4	126.7	135.0	143.3	151.6	163.0	177.6	192.2	206.8	221.4	231.0
105°	147.3	154.5	161.7	168.9	176.2	186.6	200.2	213.9	227.5	241.1	250.4
107.5°	180.6	186.6	192.5	198.5	204.5	213.7	226.2	238.7	251.2	263.7	272.8
110°	202.1	207.4	212.6	217.8	223.0	231.8	244.1	256.4	268.7	280.9	288.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.6	229.0	233.5	237.9	242.4	250.4	262.0	273.7	285.3	296.9	304.7
115°	258.3	261.4	264.6	267.8	271.0	278.2	289.3	300.4	311.5	322.6	330.3
117.5°	291.5	293.5	295.5	297.5	299.5	305.7	316.1	326.5	336.9	347.3	354.3
120°	312.6	314.1	315.7	317.3	318.8	324.6	334.5	344.4	354.3	364.2	370.7
122.5°	335.8	336.2	336.7	337.1	337.5	342.5	352.0	361.6	371.1	380.6	387.3
125°	368.6	368.2	367.8	367.5	367.1	371.3	380.1	388.8	397.6	406.3	412.8
127.5°	399.4	399.4	399.4	399.5	399.5	402.8	409.4	416.0	422.6	429.2	435.4
130°	420.0	420.0	420.1	420.1	420.1	423.0	428.6	434.3	440.0	445.7	451.8
132.5°	442.4	442.3	442.2	442.1	442.1	444.2	448.7	453.1	457.6	462.0	467.9
135°	470.3	471.1	471.8	472.6	473.4	475.0	477.5	479.9	482.4	484.9	490.3
137.5°	502.5	502.5	502.5	502.5	502.5	503.2	504.6	506.0	507.4	508.8	513.7
140°	523.9	523.8	523.7	523.6	523.5	523.6	524.0	524.4	524.7	525.1	529.5
142.5°	542.3	542.4	542.6	542.8	543.0	542.9	542.6	542.3	542.0	541.7	545.7
145°	569.1	569.2	569.4	569.6	569.7	569.8	570.0	570.1	570.2	570.3	572.4
147.5°	596.0	596.3	596.5	596.8	597.0	597.1	597.0	596.9	596.8	596.7	596.9
150°	612.4	612.6	612.7	612.9	613.0	613.1	613.1	613.1	613.1	613.1	613.1
152.5°	626.7	626.9	627.1	627.4	627.6	627.8	627.9	628.0	628.1	628.2	628.5
155°	650.2	650.2	650.2	650.2	650.2	650.1	650.0	649.9	649.8	649.6	650.1
157.5°	670.3	670.0	669.8	669.6	669.4	669.2	669.2	669.2	669.2	669.1	669.5
160°	682.1	682.0	681.9	681.8	681.6	681.5	681.4	681.3	681.1	681.0	681.4
162.5°	693.1	692.8	692.4	692.1	691.8	691.5	691.4	691.3	691.2	691.0	691.7
165°	707.8	707.4	707.0	706.7	706.3	706.0	705.7	705.5	705.2	705.0	705.7
167.5°	719.1	718.6	718.0	717.5	717.0	716.7	716.7	716.8	716.8	716.8	717.6
170°	725.5	724.9	724.2	723.6	722.9	722.7	722.8	722.9	723.1	723.2	724.0
172.5°	730.0	729.5	729.0	728.5	727.9	727.7	727.7	727.7	727.7	727.8	728.6
175°	736.3	735.7	735.1	734.4	733.8	733.4	733.3	733.2	733.0	732.9	733.8
177.5°	738.4	737.9	737.4	736.9	736.3	736.1	736.1	736.1	736.1	736.1	736.8
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1421.0	1423.0	1425.0	1425.8	1425.5	1425.2	1425.0	1424.7
5°	1417.3	1420.1	1422.9	1424.2	1423.8	1423.5	1423.1	1422.8
7.5°	1409.7	1412.9	1416.1	1417.5	1417.1	1416.8	1416.4	1416.1
10°	1402.0	1405.2	1408.4	1409.8	1409.5	1409.1	1408.7	1408.4
12.5°	1391.2	1394.1	1397.0	1398.5	1398.4	1398.3	1398.2	1398.2
15°	1371.7	1374.9	1378.0	1379.5	1379.1	1378.8	1378.4	1378.0
17.5°	1347.9	1351.1	1354.4	1355.9	1355.6	1355.3	1355.0	1354.7
20°	1329.3	1332.8	1336.4	1338.1	1338.1	1338.1	1338.1	1338.1
22.5°	1307.5	1311.1	1314.6	1316.7	1317.3	1317.8	1318.4	1319.0
25°	1274.1	1278.0	1281.9	1284.0	1284.4	1284.7	1285.1	1285.4
27.5°	1236.5	1240.1	1243.7	1245.7	1246.2	1246.6	1247.0	1247.4
30°	1210.2	1214.1	1218.0	1220.3	1221.0	1221.7	1222.4	1223.2
32.5°	1183.2	1187.7	1192.2	1194.8	1195.5	1196.2	1196.9	1197.6
35°	1140.5	1145.4	1150.4	1153.4	1154.5	1155.6	1156.6	1157.7
37.5°	1095.9	1100.9	1106.0	1109.1	1110.2	1111.3	1112.5	1113.6
40°	1064.5	1069.9	1075.2	1078.6	1080.0	1081.4	1082.8	1084.2
42.5°	1033.7	1039.6	1045.5	1049.0	1050.2	1051.3	1052.4	1053.6
45°	986.1	992.2	998.2	1002.1	1003.9	1005.6	1007.4	1009.2
47.5°	935.8	942.0	948.3	952.4	954.6	956.7	958.8	961.0
50°	900.4	907.5	914.6	919.2	921.4	923.5	925.6	927.7
52.5°	864.7	871.8	878.8	883.5	885.6	887.7	889.8	892.0
55°	811.0	818.1	825.2	829.8	831.9	834.1	836.2	838.3
57.5°	754.6	763.1	771.5	776.7	778.7	780.7	782.7	784.7
60°	715.7	723.9	732.0	737.5	740.4	743.2	746.1	748.9
62.5°	677.4	685.6	693.7	699.2	702.1	704.9	707.7	710.6
65°	618.1	627.0	635.9	641.7	644.6	647.4	650.3	653.1
67.5°	560.0	569.0	578.0	583.9	586.7	589.4	592.2	595.0
70°	519.0	528.5	538.1	544.2	546.6	549.1	551.6	554.1
72.5°	480.1	489.4	498.7	504.7	507.5	510.2	513.0	515.8
75°	420.7	430.6	440.5	447.1	450.3	453.5	456.7	459.9
77.5°	365.4	375.5	385.5	392.3	395.7	399.1	402.5	405.9
80°	329.5	340.1	350.8	357.5	360.3	363.2	366.0	368.9
82.5°	294.3	305.2	316.1	323.2	326.3	329.4	332.5	335.6
85°	244.8	255.5	266.1	273.2	276.8	280.3	283.9	287.4
87.5°	205.8	216.2	226.6	233.4	236.6	239.8	243.0	246.1
90°	192.7	203.8	214.8	221.9	225.0	228.1	231.2	234.3
92.5°	193.9	204.4	214.9	221.6	224.6	227.6	230.6	233.5
95°	202.2	212.2	222.1	228.7	231.9	235.1	238.3	241.5
97.5°	217.1	226.8	236.6	243.0	246.0	249.1	252.1	255.2
100°	228.3	238.1	248.0	254.1	256.6	259.1	261.6	264.1
102.5°	240.7	250.4	260.0	266.3	269.1	272.0	274.9	277.7
105°	259.6	268.9	278.1	284.4	287.6	290.8	294.0	297.2
107.5°	281.9	290.9	300.0	305.8	308.4	310.9	313.4	316.0
110°	296.8	304.7	312.6	318.1	321.4	324.6	327.8	331.0



TEST NUMBER: P332683

CATALOG NUMBER: SA4XXDIP-C1195D590U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	312.6	320.4	328.2	333.6	336.5	339.4	342.3	345.3
115°	337.9	345.6	353.3	358.3	360.7	363.0	365.4	367.7
117.5°	361.2	368.2	375.1	379.9	382.5	385.1	387.7	390.2
120°	377.1	383.6	390.1	394.8	397.9	401.0	404.1	407.2
122.5°	394.0	400.6	407.3	411.7	413.8	415.9	418.0	420.1
125°	419.3	425.8	432.3	436.4	438.3	440.2	442.1	444.0
127.5°	441.5	447.6	453.8	457.9	460.2	462.4	464.6	466.8
130°	457.9	464.1	470.2	474.1	475.7	477.3	478.9	480.6
132.5°	473.7	479.6	485.4	489.3	491.2	493.1	495.1	497.0
135°	495.8	501.2	506.6	510.2	511.9	513.7	515.4	517.2
137.5°	518.5	523.4	528.2	531.6	533.4	535.3	537.1	539.0
140°	534.0	538.5	543.0	546.1	547.7	549.4	551.0	552.7
142.5°	549.7	553.7	557.8	560.5	562.0	563.4	564.9	566.4
145°	574.4	576.4	578.4	579.9	580.9	582.0	583.0	584.0
147.5°	597.1	597.2	597.4	598.0	599.0	600.0	601.1	602.1
150°	613.1	613.1	613.1	613.1	612.9	612.8	612.7	612.6
152.5°	628.8	629.1	629.4	629.4	629.1	628.7	628.4	628.1
155°	650.6	651.1	651.7	651.7	651.1	650.6	650.1	649.6
157.5°	669.9	670.3	670.7	670.6	670.2	669.8	669.3	668.9
160°	681.8	682.1	682.5	682.4	681.8	681.1	680.5	679.9
162.5°	692.4	693.1	693.8	693.8	693.2	692.5	691.9	691.3
165°	706.5	707.2	708.0	708.1	707.6	707.1	706.6	706.1
167.5°	718.3	719.1	719.9	719.8	719.1	718.3	717.5	716.7
170°	724.7	725.5	726.2	726.2	725.3	724.4	723.5	722.6
172.5°	729.5	730.4	731.2	731.2	730.3	729.4	728.5	727.7
175°	734.7	735.6	736.4	736.4	735.6	734.7	733.8	732.9
177.5°	737.5	738.2	738.9	738.9	738.1	737.3	736.4	735.6
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5

(END OF REPORT)