

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: P331750-930

Luminaire Tested: **SA2XXRDIP-C1005D725U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331750-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C1005D725U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5203.7 lumens  
Efficiency: N/A  
Efficacy: 85.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

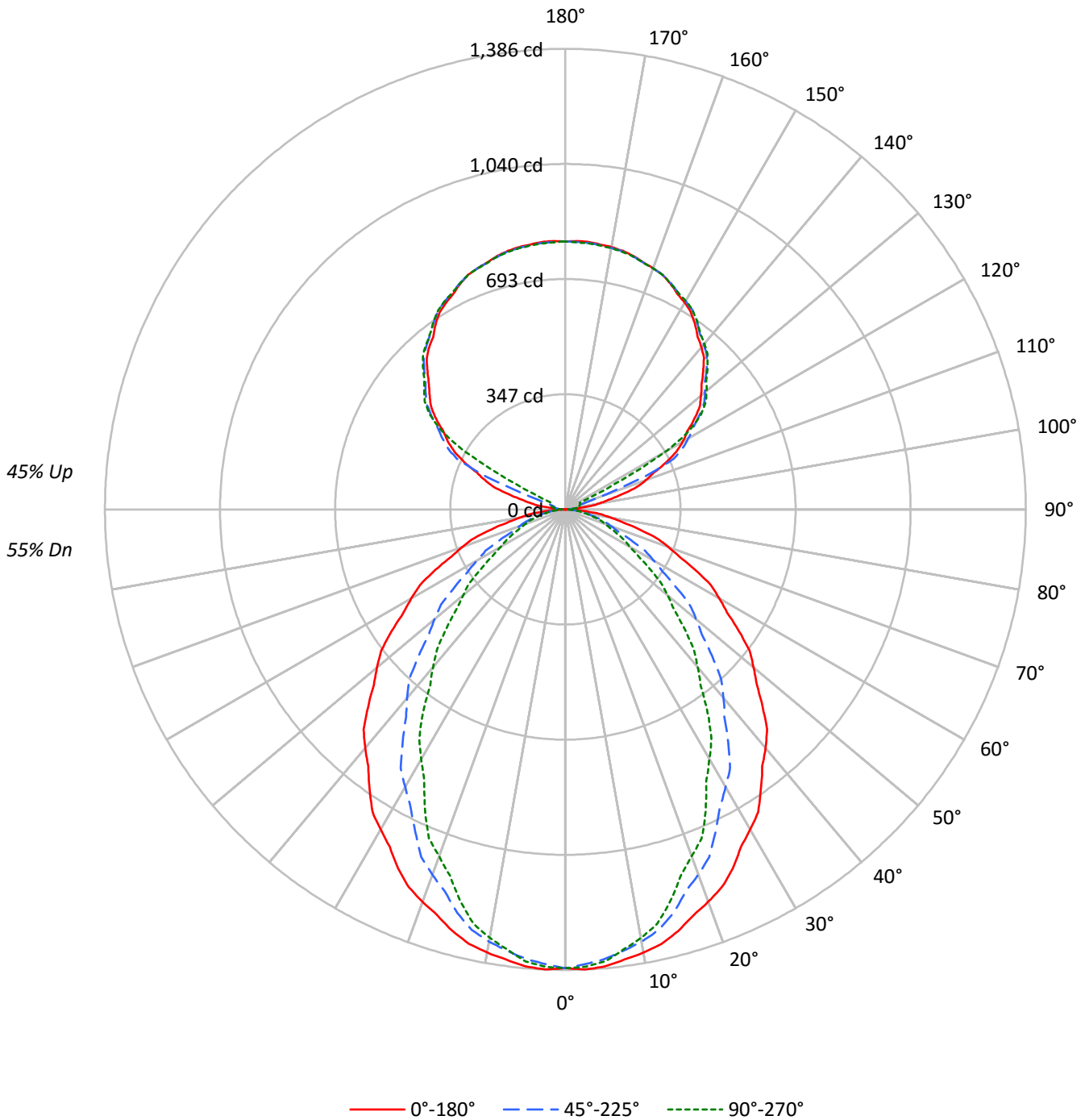
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52	47
2	91	84	78	73	84	78	73	68	67	63	60	57	55	52	48	46	45	40
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39	35
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	30
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	21
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21	19
9	52	40	33	28	49	38	31	27	33	28	24	29	25	22	25	22	19	17
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18	16

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	22291	22291	22291
5°	22376	22013	22135
10°	22207	21653	21469
15°	21951	21010	20404
20°	21596	20094	19086
25°	21235	19053	17808
30°	20734	17984	16168
35°	20243	16821	14728
40°	19751	15616	13061
45°	19173	14266	11556
50°	18580	12901	10073
55°	17973	11431	8653
60°	17270	9884	7182
65°	16466	8306	6541
70°	15512	6845	6014
75°	14342	6238	5608
80°	12664	5579	5114
85°	9948	4390	4390



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.2	2.5
10°-20°	354.8	6.8
20°-30°	498.3	9.6
30°-40°	543.4	10.4
40°-50°	499.6	9.6
50°-60°	392.4	7.5
60°-70°	255.8	4.9
70°-80°	131.9	2.5
80°-90°	36.2	0.7
90°-100°	26.9	0.5
100°-110°	98.6	1.9
110°-120°	263.5	5.1
120°-130°	435.0	8.4
130°-140°	462.7	8.9
140°-150°	430.0	8.3
150°-160°	345.7	6.6
160°-170°	222.8	4.3
170°-180°	76.7	1.5
0°-30°	982.4	18.9
0°-40°	1525.7	29.3
0°-60°	2417.7	46.5
0°-90°	2841.7	54.6
90°-120°	389.0	7.5
90°-150°	1716.8	33.0
90°-180°	2362.0	45.4
0°-180°	5203.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1381	1381	1381	1381	1381	
5°	1381	1374	1358	1369	1366	131
15°	1313	1298	1257	1234	1221	370
25°	1192	1150	1070	1020	1000	548
35°	1027	961	853	778	747	642
45°	840	753	625	539	506	648
55°	638	539	406	334	307	570
65°	431	329	217	177	171	427
75°	230	145	100	92	90	243
85°	54	29	24	24	24	63
90°	1	7	12	14	16	4
95°	38	20	23	26	25	46
105°	177	185	36	42	44	189
115°	335	346	360	102	48	330
125°	474	482	493	497	499	423
135°	587	596	601	607	606	453
145°	681	681	690	694	691	426
155°	749	745	751	754	750	345
165°	790	786	788	792	788	223
175°	808	804	805	808	803	77
180°	806	806	806	806	806	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6
2.5°	1385.7	1384.5	1383.4	1382.3	1381.2	1379.4	1377.0	1374.6	1372.1	1369.7	1371.9
5°	1380.6	1379.2	1377.9	1376.5	1375.1	1372.6	1369.0	1365.4	1361.8	1358.2	1360.7
7.5°	1366.4	1364.7	1363.0	1361.2	1359.5	1356.6	1352.3	1348.1	1343.9	1339.7	1340.4
10°	1354.5	1352.5	1350.5	1348.6	1346.6	1342.9	1337.3	1331.8	1326.2	1320.7	1319.9
12.5°	1339.5	1337.0	1334.6	1332.3	1329.9	1325.1	1318.0	1310.9	1303.8	1296.7	1295.2
15°	1313.2	1310.1	1307.1	1304.0	1301.0	1294.7	1285.3	1275.9	1266.4	1256.9	1251.7
17.5°	1280.9	1276.3	1271.6	1267.0	1262.3	1253.9	1241.8	1229.7	1217.6	1205.5	1199.2
20°	1256.9	1251.4	1245.9	1240.3	1234.8	1225.1	1211.1	1197.3	1183.4	1169.5	1162.5
22.5°	1230.9	1224.7	1218.5	1212.4	1206.1	1195.1	1179.5	1163.8	1148.2	1132.5	1123.6
25°	1192.0	1183.1	1174.2	1165.3	1156.4	1142.9	1124.5	1106.2	1087.9	1069.5	1058.2
27.5°	1145.0	1135.4	1125.7	1116.1	1106.4	1091.2	1070.6	1049.9	1029.2	1008.6	995.3
30°	1112.1	1101.5	1091.0	1080.4	1069.8	1053.4	1031.2	1009.0	986.8	964.6	950.4
32.5°	1080.0	1067.7	1055.4	1043.1	1030.7	1013.3	990.6	967.9	945.3	922.6	906.4
35°	1027.0	1012.9	998.7	984.6	970.5	951.1	926.7	902.3	877.8	853.4	835.9
37.5°	974.1	958.5	943.0	927.4	911.9	891.1	865.0	839.0	812.9	786.9	767.7
40°	937.1	920.5	903.8	887.1	870.5	848.6	821.7	794.8	767.8	740.9	721.2
42.5°	899.1	881.6	864.1	846.4	828.9	806.2	778.4	750.6	722.8	695.0	674.6
45°	839.7	821.0	802.4	783.8	765.2	741.4	712.2	683.1	653.9	624.8	605.0
47.5°	781.6	762.0	742.2	722.5	702.8	677.9	647.8	617.7	587.6	557.5	537.9
50°	739.7	720.0	700.3	680.5	660.8	635.7	605.2	574.6	544.0	513.6	494.4
52.5°	698.7	678.1	657.5	636.9	616.3	591.1	561.2	531.3	501.4	471.6	453.1
55°	638.5	616.9	595.2	573.5	551.9	526.0	496.0	466.0	436.1	406.1	389.4
57.5°	576.7	554.6	532.3	510.1	487.9	462.4	433.6	404.7	375.9	347.1	331.8
60°	534.8	512.6	490.3	468.1	445.9	420.5	391.9	363.3	334.7	306.1	292.0
62.5°	493.8	471.6	449.4	427.1	405.0	380.2	352.9	325.6	298.4	271.2	257.6
65°	431.0	408.5	386.1	363.6	341.1	317.4	292.4	267.4	242.4	217.4	208.0
67.5°	370.6	348.3	326.0	303.6	281.3	258.9	236.4	213.9	191.4	168.9	164.6
70°	328.6	307.0	285.3	263.7	242.0	221.6	202.4	183.3	164.1	145.0	142.2
72.5°	288.6	267.8	247.1	226.3	205.5	187.4	172.1	156.7	141.3	126.0	123.6
75°	229.9	210.4	191.0	171.6	152.1	137.7	128.2	118.9	109.4	100.0	98.0
77.5°	172.2	155.2	138.1	121.1	104.0	93.2	88.6	84.1	79.5	75.0	73.9
80°	136.2	122.1	107.9	93.7	79.6	71.1	68.3	65.6	62.8	60.0	58.9
82.5°	103.2	92.1	81.1	70.0	59.0	52.5	50.6	48.8	46.9	45.0	44.4
85°	53.7	47.9	42.1	36.2	30.4	27.1	26.3	25.4	24.5	23.7	23.7
87.5°	16.1	14.6	13.1	11.7	10.1	9.5	9.7	9.9	10.1	10.4	10.3
90°	0.6	2.0	3.4	4.9	6.3	7.5	8.6	9.6	10.6	11.7	12.3
92.5°	11.7	11.7	11.5	11.4	11.3	11.5	12.0	12.5	13.0	13.5	13.9
95°	37.9	33.7	29.4	25.1	20.8	19.1	20.1	21.0	21.9	22.7	23.4
97.5°	75.3	63.2	51.1	39.1	27.0	22.0	24.1	26.3	28.4	30.4	31.0
100°	103.2	85.4	67.8	50.0	32.2	24.5	26.7	28.9	31.1	33.3	34.2
102.5°	134.0	130.3	126.5	122.8	119.0	107.9	89.4	71.0	52.6	34.2	35.5
105°	177.3	181.2	185.1	189.0	192.8	177.1	141.7	106.3	70.9	35.5	37.0
107.5°	226.7	229.8	232.9	236.0	239.2	219.6	177.1	134.7	92.2	49.8	48.3
110°	258.4	261.1	263.8	266.5	269.2	251.8	214.4	177.0	139.5	102.1	89.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	288.2	290.7	293.0	295.5	297.8	294.4	285.2	275.9	266.7	257.4	210.2
115°	335.3	337.5	339.7	341.9	344.1	346.9	350.1	353.4	356.6	359.9	299.9
117.5°	377.5	379.9	382.4	384.8	387.3	389.6	391.9	394.1	396.3	398.6	384.1
120°	408.2	410.2	412.1	414.1	416.0	418.2	420.5	422.8	425.2	427.5	429.0
122.5°	434.4	436.4	438.5	440.5	442.5	444.8	447.4	450.0	452.5	455.0	455.9
125°	474.2	475.8	477.5	479.2	480.9	483.0	485.4	487.9	490.3	492.8	493.7
127.5°	510.2	512.1	514.0	515.8	517.6	519.5	521.4	523.2	525.1	526.8	528.2
130°	533.0	535.2	537.2	539.2	541.4	543.1	544.5	545.9	547.4	548.8	550.2
132.5°	556.4	558.2	559.9	561.7	563.5	565.0	566.5	567.9	569.3	570.7	571.9
135°	586.7	588.8	590.8	593.0	595.0	596.6	597.8	598.9	600.1	601.3	602.6
137.5°	617.4	618.8	620.3	621.7	623.2	624.6	625.9	627.2	628.5	629.9	631.1
140°	637.5	638.5	639.5	640.6	641.6	642.9	644.2	645.7	647.1	648.6	649.7
142.5°	654.3	655.2	656.2	657.0	657.9	659.3	660.9	662.5	664.1	665.8	666.8
145°	680.6	680.4	680.4	680.2	680.1	681.1	683.3	685.5	687.7	689.9	690.9
147.5°	703.6	703.1	702.6	702.1	701.6	702.5	704.7	706.8	709.0	711.2	711.8
150°	718.5	717.6	716.7	715.8	714.9	715.5	717.5	719.6	721.7	723.7	724.6
152.5°	731.1	730.1	729.1	728.1	727.1	727.6	729.5	731.5	733.4	735.4	736.2
155°	749.4	748.3	747.1	745.9	744.8	744.9	746.5	748.0	749.6	751.1	752.0
157.5°	763.8	762.8	761.8	760.8	759.9	759.9	761.0	762.1	763.1	764.3	765.2
160°	772.2	771.4	770.6	769.8	769.1	769.1	769.8	770.6	771.4	772.2	773.0
162.5°	779.7	778.9	778.1	777.3	776.5	776.5	777.1	777.8	778.5	779.2	780.1
165°	789.7	788.9	788.1	787.3	786.5	786.4	786.8	787.2	787.5	787.9	788.8
167.5°	797.1	796.4	795.6	794.8	794.0	793.8	794.2	794.5	794.9	795.2	796.1
170°	801.4	800.5	799.8	799.0	798.3	797.9	798.3	798.5	798.7	799.0	799.9
172.5°	804.1	803.3	802.6	801.8	801.0	800.8	801.0	801.3	801.5	801.8	802.7
175°	807.7	806.8	805.9	805.0	804.1	803.8	804.0	804.3	804.5	804.9	805.8
177.5°	808.4	807.6	806.9	806.2	805.4	805.1	805.2	805.4	805.4	805.5	806.2
180°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6
2.5°	1374.1	1376.3	1378.6	1379.4	1379.0	1378.6	1378.1	1377.7
5°	1363.2	1365.7	1368.2	1369.0	1368.2	1367.3	1366.5	1365.7
7.5°	1341.1	1341.8	1342.6	1342.2	1340.8	1339.3	1337.9	1336.4
10°	1319.0	1318.2	1317.4	1316.1	1314.4	1312.8	1311.1	1309.5
12.5°	1293.7	1292.2	1290.7	1288.6	1285.8	1283.0	1280.3	1277.5
15°	1246.4	1241.1	1235.8	1231.8	1229.1	1226.3	1223.5	1220.7
17.5°	1192.9	1186.7	1180.4	1174.8	1170.1	1165.3	1160.5	1155.8
20°	1155.6	1148.7	1141.7	1135.2	1129.1	1123.0	1116.9	1110.8
22.5°	1114.7	1105.7	1096.7	1090.0	1085.5	1080.9	1076.4	1071.8
25°	1046.8	1035.4	1024.0	1016.3	1012.0	1007.9	1003.7	999.6
27.5°	982.0	968.7	955.4	945.5	938.9	932.3	925.7	919.1
30°	936.3	922.1	907.9	897.2	889.7	882.2	874.7	867.2
32.5°	890.3	874.2	857.9	846.4	839.4	832.3	825.2	818.2
35°	818.4	801.0	783.4	771.6	765.5	759.4	753.3	747.2
37.5°	748.4	729.1	709.8	696.7	689.7	682.7	675.7	668.7
40°	701.5	681.8	662.1	648.7	641.4	634.1	627.0	619.7
42.5°	654.2	633.8	613.4	599.7	592.7	585.7	578.8	571.8
45°	585.3	565.6	545.8	532.7	526.0	519.3	512.7	506.1
47.5°	518.3	498.7	479.1	466.3	460.2	454.2	448.1	442.1
50°	475.2	456.1	436.9	424.4	418.6	412.7	406.9	401.0
52.5°	434.6	416.0	397.6	385.6	380.3	374.9	369.5	364.1
55°	372.8	356.1	339.4	328.5	323.2	317.9	312.7	307.4
57.5°	316.6	301.3	286.0	276.1	271.7	267.3	262.9	258.4
60°	277.8	263.7	249.5	240.2	235.7	231.3	226.8	222.4
62.5°	244.2	230.6	217.2	209.0	206.4	203.7	201.1	198.4
65°	198.5	189.1	179.6	174.5	173.7	172.8	172.0	171.2
67.5°	160.3	156.0	151.6	149.0	148.1	147.2	146.3	145.4
70°	139.4	136.6	133.9	131.9	130.8	129.6	128.6	127.4
72.5°	121.3	119.0	116.6	115.1	114.5	113.8	113.1	112.4
75°	96.0	94.2	92.2	91.1	90.8	90.5	90.3	89.9
77.5°	72.7	71.7	70.5	69.7	69.3	68.9	68.4	68.0
80°	57.7	56.7	55.5	55.0	55.0	55.0	55.0	55.0
82.5°	43.6	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
87.5°	10.1	10.0	9.9	9.9	10.0	10.0	10.1	10.1
90°	13.0	13.6	14.3	14.7	15.0	15.2	15.5	15.7
92.5°	14.2	14.5	14.8	15.2	15.2	15.4	15.6	15.7
95°	24.1	24.7	25.4	25.6	25.4	25.4	25.2	25.1
97.5°	31.5	32.0	32.5	32.9	33.0	33.2	33.3	33.5
100°	35.3	36.4	37.4	38.1	38.3	38.6	38.8	39.1
102.5°	36.9	38.2	39.5	40.4	40.8	41.2	41.5	41.9
105°	38.4	39.9	41.3	42.2	42.8	43.3	43.8	44.4
107.5°	46.9	45.4	44.0	43.5	44.0	44.6	45.1	45.6
110°	76.1	63.2	50.2	44.0	44.5	45.0	45.6	46.1





TEST NUMBER: P331750-930

CATALOG NUMBER: SA2XXRDIP-C1005D725U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	162.9	115.6	68.3	44.8	45.3	45.7	46.1	46.6
115°	239.9	179.9	119.8	85.1	75.8	66.4	57.2	47.9
117.5°	369.6	355.0	340.5	317.9	287.2	256.6	225.9	195.3
120°	430.6	432.2	433.7	425.7	408.2	390.8	373.2	355.8
122.5°	456.9	457.8	458.8	457.5	454.1	450.7	447.4	443.9
125°	494.6	495.5	496.4	497.1	497.5	497.9	498.2	498.6
127.5°	529.5	530.8	532.1	532.9	533.0	533.0	533.1	533.2
130°	551.6	553.1	554.5	555.1	555.1	554.9	554.7	554.6
132.5°	573.2	574.4	575.6	576.2	576.0	575.9	575.8	575.6
135°	603.9	605.2	606.5	607.0	606.7	606.5	606.2	605.9
137.5°	632.4	633.7	635.0	635.4	635.0	634.5	634.1	633.6
140°	650.9	652.0	653.2	653.5	652.8	652.2	651.5	650.9
142.5°	667.9	669.0	670.0	670.3	669.6	669.0	668.3	667.6
145°	691.8	692.7	693.6	693.7	693.1	692.4	691.8	691.1
147.5°	712.5	713.2	713.9	714.0	713.4	712.8	712.3	711.8
150°	725.3	726.1	726.8	726.9	726.3	725.6	725.0	724.3
152.5°	736.9	737.8	738.6	738.5	737.7	736.8	736.0	735.1
155°	752.8	753.5	754.3	754.2	753.1	752.1	751.1	750.0
157.5°	766.0	766.9	767.8	767.7	766.7	765.6	764.7	763.7
160°	773.7	774.5	775.3	775.2	774.3	773.4	772.5	771.6
162.5°	780.9	781.8	782.7	782.6	781.5	780.3	779.3	778.1
165°	789.7	790.7	791.6	791.6	790.7	789.7	788.8	787.9
167.5°	797.1	798.0	798.9	798.7	797.6	796.5	795.2	794.1
170°	800.8	801.7	802.7	802.5	801.4	800.1	799.0	797.9
172.5°	803.6	804.5	805.4	805.3	804.1	803.0	801.8	800.6
175°	806.7	807.6	808.5	808.3	807.0	805.7	804.4	803.1
177.5°	807.0	807.7	808.5	808.4	807.4	806.5	805.5	804.6
180°	806.0	806.0	806.0	806.0	806.0	806.0	806.0	806.0

(END OF REPORT)