

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: P331752-930

Luminaire Tested: **SA2XXRDIP-C1005D725U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331752-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
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-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5148.8 lumens  
Efficiency: N/A  
Efficacy: 84.8 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

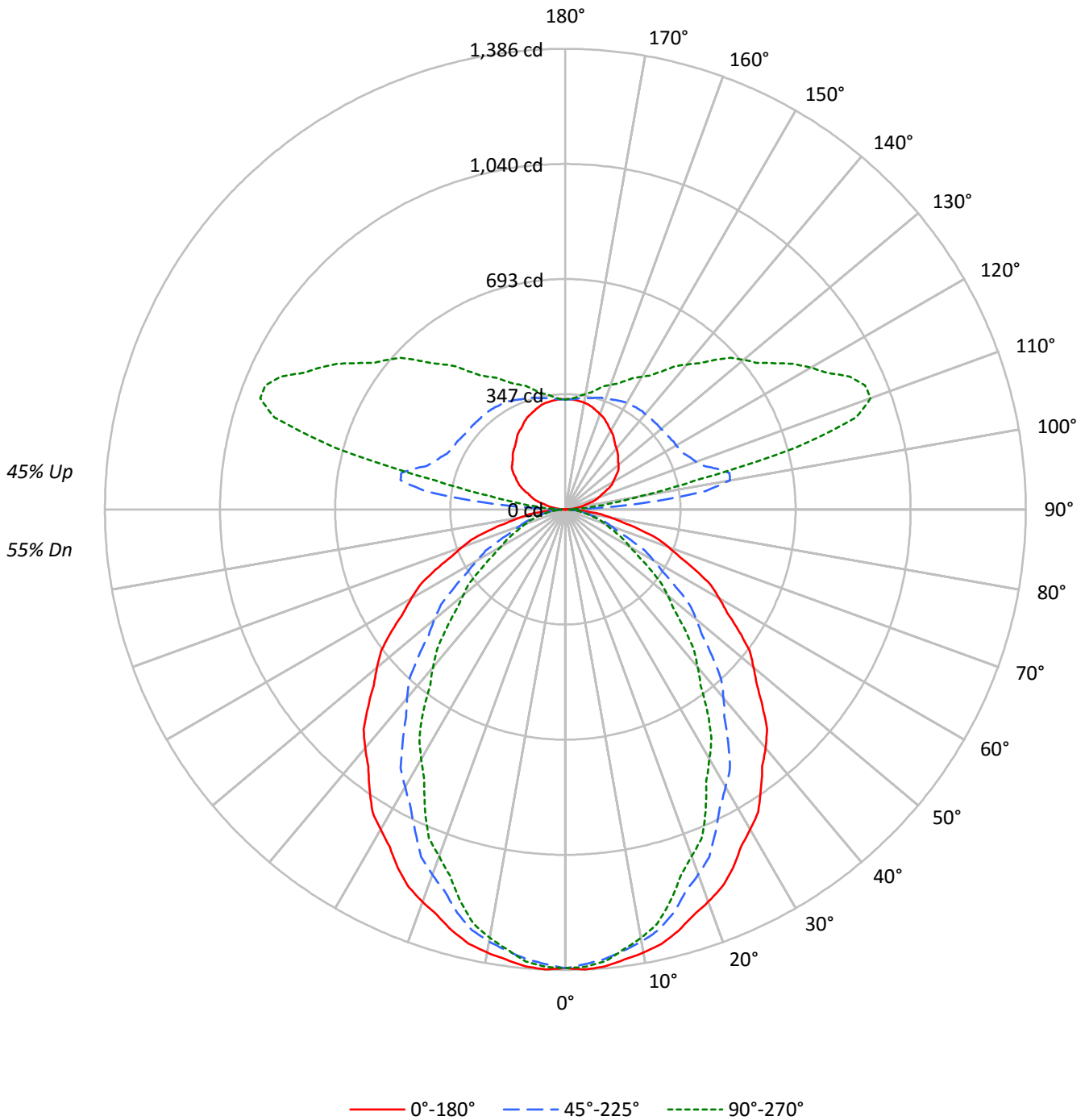
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	92	88	92	89	86	83	76	74	72	65	63	62	55	54	52	48
2	91	84	78	73	84	78	73	69	68	64	60	58	55	53	49	47	45	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	41	39	35
4	77	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	31
5	70	59	51	45	65	55	48	43	48	43	39	42	38	34	36	33	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	34	30	33	29	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	27	24	21
8	56	44	36	31	52	41	35	30	37	31	27	32	28	24	28	24	22	19
9	52	40	33	28	49	38	31	27	34	28	24	30	25	22	26	22	20	18
10	49	37	30	25	46	35	29	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	6.9
20°-30°	498.3	9.7
30°-40°	543.4	10.6
40°-50°	499.6	9.7
50°-60°	392.4	7.6
60°-70°	255.8	5.0
70°-80°	131.9	2.6
80°-90°	37.2	0.7
90°-100°	132.5	2.6
100°-110°	449.7	8.7
110°-120°	477.7	9.3
120°-130°	393.2	7.6
130°-140°	315.8	6.1
140°-150°	238.6	4.6
150°-160°	167.7	3.3
160°-170°	98.7	1.9
170°-180°	32.1	0.6
0°-30°	982.4	19.1
0°-40°	1525.7	29.6
0°-60°	2417.7	47.0
0°-90°	2842.7	55.2
90°-120°	1059.9	20.6
90°-150°	2007.6	39.0
90°-180°	2306.0	44.8
0°-180°	5148.8	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	9	22	21	21	3
95°	22	55	250	94	73	24
105°	78	117	472	844	718	83
115°	137	173	395	815	945	136
125°	191	226	380	661	767	170
135°	224	268	375	555	635	173
145°	256	294	374	464	507	161
155°	291	314	363	410	426	134
165°	317	327	347	368	374	89
175°	331	331	334	338	337	31
180°	331	331	331	331	331	



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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	14.8	13.5	11.9	10.4	9.9	10.5	11.4	12.2	12.3	12.0
90°	0.7	2.5	5.1	6.4	7.7	9.5	12.7	17.2	21.0	21.7	21.0
92.5°	7.7	11.3	15.8	18.6	22.9	28.9	43.4	63.6	81.7	82.8	70.0
95°	22.3	24.9	31.2	36.9	47.1	62.5	91.8	147.2	221.2	249.8	218.6
97.5°	36.4	39.8	46.6	55.2	66.9	84.2	121.1	198.4	321.2	426.5	447.4
100°	49.1	51.0	56.7	66.9	79.7	97.5	131.3	209.0	346.7	503.4	595.3
102.5°	60.8	62.2	67.9	78.1	91.4	109.3	140.5	209.5	337.0	506.1	650.3
105°	77.8	80.3	84.8	94.3	108.4	126.2	156.1	212.9	318.0	472.2	641.8
107.5°	96.1	98.2	102.5	111.3	125.1	143.2	172.2	221.7	308.6	436.0	585.8
110°	108.4	110.9	114.7	123.0	136.4	154.9	182.9	228.8	306.6	418.7	550.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	119.5	122.1	126.5	134.2	147.1	166.1	193.1	236.4	307.0	407.5	526.2
115°	137.1	140.2	144.1	151.6	164.4	181.6	209.0	247.9	309.7	395.2	495.9
117.5°	155.2	157.7	161.5	168.3	180.5	198.4	223.7	260.2	314.3	389.1	476.7
120°	166.3	168.9	172.7	178.5	191.2	209.0	233.9	268.3	317.4	385.6	466.5
122.5°	177.1	179.1	182.9	189.1	201.9	220.3	243.6	275.5	321.0	383.5	457.9
125°	191.2	193.1	196.9	204.6	217.4	235.1	258.1	286.8	326.3	379.8	445.5
127.5°	202.4	205.0	210.3	218.7	231.0	249.3	271.7	297.3	331.8	377.6	434.0
130°	209.0	211.6	217.9	226.9	239.6	257.5	279.8	304.0	335.9	376.7	426.4
132.5°	215.2	218.3	225.1	234.6	247.8	265.6	286.9	310.6	340.0	376.2	420.3
135°	224.4	226.9	234.6	244.1	258.8	276.6	297.0	319.3	344.8	375.4	411.7
137.5°	233.0	236.0	243.7	253.9	268.5	285.0	305.2	326.0	349.1	375.3	405.7
140°	239.6	242.1	249.8	260.0	274.0	290.7	309.7	329.5	351.1	374.7	402.2
142.5°	246.2	248.3	255.4	265.6	279.2	294.7	313.3	332.6	352.7	374.7	398.6
145°	256.2	258.8	265.1	274.7	287.4	301.4	318.7	336.5	354.3	373.5	393.9
147.5°	266.9	268.8	274.9	283.7	294.3	306.8	323.0	338.7	354.9	371.2	389.1
150°	274.0	276.0	281.0	289.3	298.9	310.4	325.1	339.7	354.3	369.7	384.9
152.5°	281.2	282.1	287.1	294.4	303.5	314.0	327.1	340.2	353.4	367.1	381.4
155°	291.2	291.9	295.7	302.7	309.7	319.3	330.1	341.0	351.8	362.6	374.7
157.5°	299.7	300.3	303.4	309.5	315.1	323.1	332.3	341.0	348.9	358.1	368.5
160°	305.2	305.9	308.4	313.6	318.7	325.6	333.3	341.0	347.3	355.0	363.9
162.5°	310.9	310.5	313.1	317.2	321.7	327.2	333.9	340.5	345.8	352.5	359.8
165°	317.4	316.7	318.0	321.9	325.1	328.9	334.6	339.1	342.9	347.3	353.1
167.5°	322.8	322.0	323.1	325.5	327.8	330.3	334.4	338.2	340.0	342.9	346.4
170°	326.3	325.1	325.6	327.6	328.9	330.8	333.9	337.1	338.4	340.3	342.9
172.5°	328.3	327.6	327.2	329.1	329.9	331.3	333.5	335.6	336.4	337.3	339.3
175°	330.8	330.1	329.5	330.8	330.8	331.4	332.6	333.9	333.3	333.9	334.6
177.5°	331.9	330.9	330.4	331.4	331.4	331.4	331.9	333.0	331.9	331.4	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4



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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°	11.7	11.2	11.2	11.2	11.2	11.2	11.2	11.2
90°	20.4	19.2	20.4	21.0	21.0	21.0	21.0	21.0
92.5°	55.6	47.7	42.3	38.4	37.8	35.8	36.4	35.3
95°	167.0	128.1	101.3	87.3	79.0	73.9	72.0	72.6
97.5°	389.6	318.8	249.8	203.8	173.3	157.7	148.4	143.0
100°	581.9	502.9	415.6	338.4	285.5	258.1	239.6	228.1
102.5°	707.8	690.0	626.1	544.4	486.9	440.1	417.0	401.5
105°	774.4	846.4	854.7	833.6	794.1	754.6	727.2	718.3
107.5°	726.4	834.9	901.2	932.1	937.0	934.8	929.4	917.5
110°	685.1	799.2	880.8	933.0	960.4	972.6	978.3	977.6





TEST NUMBER: P331752-930

CATALOG NUMBER: SA2XXRDIP-C1005D725U930-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	647.4	756.8	844.1	904.0	942.1	962.4	973.2	976.6
115°	601.0	699.1	782.6	848.2	893.5	922.8	939.4	945.2
117.5°	566.1	652.2	728.0	789.5	835.7	866.7	884.1	888.9
120°	548.7	627.8	695.3	753.3	797.9	827.9	846.4	852.7
122.5°	535.0	607.4	671.3	723.7	763.8	793.2	809.7	815.0
125°	514.9	580.6	636.7	684.4	721.5	745.7	761.6	766.7
127.5°	495.2	554.6	607.5	651.6	683.9	706.5	720.3	724.4
130°	482.4	537.3	587.6	629.7	660.9	682.6	695.3	700.4
132.5°	470.2	521.0	567.2	606.7	637.5	659.1	670.8	675.4
135°	453.1	495.2	537.3	572.9	600.4	621.4	632.8	635.4
137.5°	439.5	474.7	508.1	539.2	564.2	582.3	592.3	596.1
140°	430.8	461.5	490.7	518.8	539.2	555.7	565.3	569.2
142.5°	423.7	449.7	474.9	498.4	517.8	532.8	541.4	542.1
145°	413.6	434.6	454.4	472.9	488.2	499.0	505.4	507.3
147.5°	405.9	422.4	437.8	451.3	464.0	472.6	477.0	478.1
150°	400.2	414.3	427.6	439.1	448.7	456.3	460.2	460.8
152.5°	394.6	407.6	419.0	428.9	436.4	443.0	445.9	446.0
155°	386.9	397.1	406.6	413.6	420.6	425.1	427.6	426.4
157.5°	377.8	386.4	394.4	399.8	404.8	408.5	409.7	409.7
160°	372.2	379.2	386.2	390.7	395.2	398.4	398.9	398.9
162.5°	366.6	372.6	378.5	382.0	386.5	388.7	389.3	388.7
165°	358.2	362.6	367.1	369.7	372.2	374.7	374.7	374.1
167.5°	350.2	353.6	356.6	359.0	360.1	361.5	361.3	360.6
170°	346.1	348.0	350.5	351.8	352.5	354.3	353.7	352.5
172.5°	341.4	342.9	345.0	345.7	346.3	347.2	346.6	345.8
175°	336.5	337.1	337.8	338.4	338.4	339.1	338.4	337.1
177.5°	333.0	333.0	333.5	333.5	333.5	333.5	333.0	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4

(END OF REPORT)