

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: P331702-940

Luminaire Tested: **SA2XXRDIP-C675D1080U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331702-940  
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-C675D1080U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5911.2 lumens  
Efficiency: N/A  
Efficacy: 103.9 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: Semi-Indirect

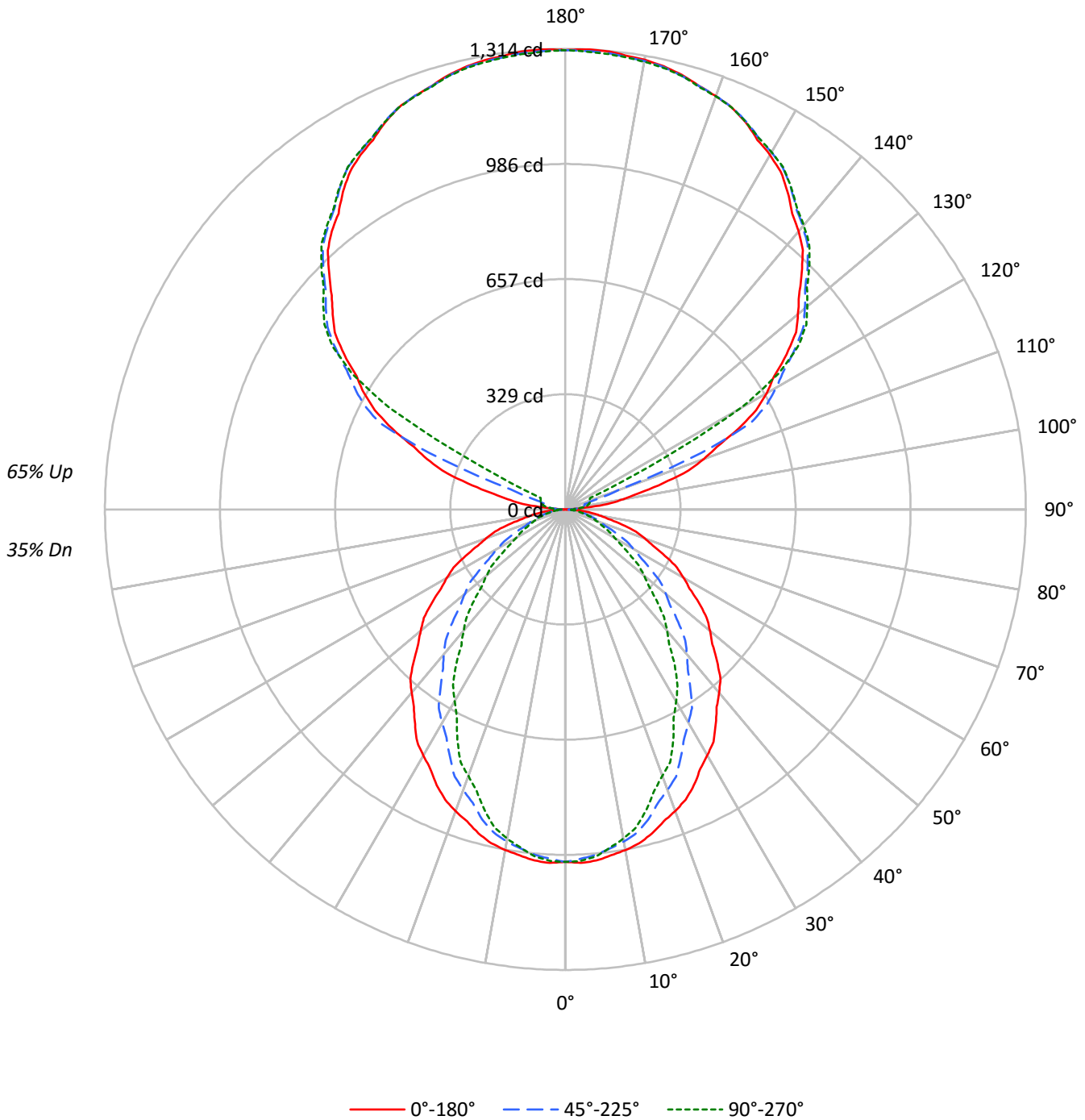
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35				
1	95	91	87	84	86	82	79	76	66	64	62	51	50	49	38	37	36	30				
2	87	80	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26				
3	79	70	63	58	71	64	58	53	52	47	44	41	38	35	30	28	27	22				
4	72	62	55	49	65	57	50	45	46	41	38	36	33	30	27	25	23	19				
5	67	56	48	42	60	51	44	39	41	36	33	33	29	27	25	22	21	17				
6	61	50	42	37	55	46	39	34	37	32	29	30	26	23	22	20	18	15				
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	21	18	16	14				
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	17	15	12				
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11				
10	46	34	27	23	41	31	25	21	26	21	18	21	18	15	16	14	12	10				

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

	0°	45°	90°
0°	16239	16239	16239
5°	16302	16037	16126
10°	16179	15775	15641
15°	15992	15308	14867
20°	15735	14639	13904
25°	15471	13881	12975
30°	15105	13103	11779
35°	14747	12254	10730
40°	14389	11377	9516
45°	13967	10392	8416
50°	13536	9399	7340
55°	13095	8329	6303
60°	12581	7201	5231
65°	12000	6052	4768
70°	11301	4985	4381
75°	10449	4548	4086
80°	9224	4063	3719
85°	7243	3205	3205



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	1.6
10°-20°	258.5	4.4
20°-30°	363.0	6.1
30°-40°	395.9	6.7
40°-50°	364.0	6.2
50°-60°	285.9	4.8
60°-70°	186.4	3.2
70°-80°	96.1	1.6
80°-90°	28.2	0.5
90°-100°	43.7	0.7
100°-110°	160.2	2.7
110°-120°	428.4	7.2
120°-130°	707.1	12.0
130°-140°	752.0	12.7
140°-150°	699.0	11.8
150°-160°	562.0	9.5
160°-170°	362.1	6.1
170°-180°	124.6	2.1
0°-30°	715.7	12.1
0°-40°	1111.6	18.8
0°-60°	1761.4	29.8
0°-90°	2072.1	35.1
90°-120°	632.3	10.7
90°-150°	2790.4	47.2
90°-180°	3839.0	64.9
0°-180°	5911.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	1006	1001	990	997	995	95
15°	957	946	916	899	889	269
25°	868	838	779	743	728	399
35°	748	700	622	566	544	468
45°	612	549	455	393	369	472
55°	465	393	296	243	224	416
65°	314	240	158	129	125	311
75°	168	106	73	67	66	177
85°	39	21	17	17	17	46
90°	1	11	19	24	26	5
95°	62	32	37	41	41	75
105°	288	301	58	68	72	308
115°	545	562	585	167	78	537
125°	771	783	801	807	810	687
135°	954	968	977	986	985	736
145°	1106	1106	1121	1127	1123	692
155°	1218	1211	1221	1226	1219	561
165°	1284	1278	1281	1287	1281	362
175°	1313	1307	1308	1314	1305	125
180°	1310	1310	1310	1310	1310	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1009.5	1008.7	1007.9	1007.1	1006.3	1005.0	1003.2	1001.4	999.7	997.9	999.5
5°	1005.8	1004.9	1003.9	1002.8	1001.8	1000.1	997.4	994.8	992.1	989.5	991.3
7.5°	995.5	994.3	993.0	991.8	990.5	988.3	985.3	982.2	979.1	976.1	976.5
10°	986.8	985.3	983.9	982.5	981.1	978.4	974.3	970.3	966.3	962.2	961.6
12.5°	975.8	974.1	972.3	970.6	968.8	965.5	960.3	955.1	949.9	944.7	943.6
15°	956.7	954.5	952.3	950.0	947.8	943.3	936.4	929.5	922.7	915.8	912.0
17.5°	933.3	929.9	926.5	923.0	919.6	913.6	904.7	895.9	887.1	878.2	873.7
20°	915.8	911.7	907.7	903.7	899.6	892.5	882.3	872.3	862.2	852.0	846.9
22.5°	896.8	892.3	887.8	883.2	878.7	870.8	859.3	847.9	836.5	825.1	818.6
25°	868.4	861.9	855.5	849.0	842.6	832.6	819.3	805.9	792.6	779.2	770.9
27.5°	834.2	827.2	820.1	813.1	806.0	795.0	780.0	764.9	749.8	734.8	725.1
30°	810.2	802.5	794.8	787.1	779.4	767.5	751.3	735.1	718.9	702.8	692.4
32.5°	786.8	777.8	768.9	759.9	750.9	738.2	721.7	705.2	688.7	672.2	660.4
35°	748.2	738.0	727.6	717.3	707.0	692.9	675.1	657.4	639.5	621.7	608.9
37.5°	709.7	698.3	687.0	675.6	664.3	649.2	630.3	611.3	592.3	573.3	559.3
40°	682.7	670.6	658.4	646.3	634.2	618.3	598.7	579.1	559.5	539.8	525.5
42.5°	655.1	642.3	629.5	616.7	604.0	587.4	567.1	546.9	526.6	506.3	491.4
45°	611.7	598.2	584.6	571.1	557.5	540.1	518.9	497.7	476.4	455.1	440.8
47.5°	569.4	555.1	540.7	526.4	512.0	493.9	472.0	450.0	428.1	406.2	391.9
50°	538.9	524.5	510.1	495.8	481.4	463.2	440.9	418.7	396.4	374.2	360.2
52.5°	509.1	494.0	479.0	464.0	449.0	430.6	408.8	387.1	365.3	343.6	330.1
55°	465.2	449.4	433.6	417.9	402.1	383.3	361.4	339.6	317.7	295.9	283.7
57.5°	420.2	404.0	387.8	371.7	355.4	336.9	315.8	294.9	273.8	252.9	241.7
60°	389.6	373.4	357.2	341.1	324.9	306.4	285.5	264.7	243.9	223.0	212.7
62.5°	359.7	343.6	327.3	311.2	295.0	277.0	257.2	237.3	217.4	197.5	187.7
65°	314.1	297.7	281.2	264.9	248.5	231.2	213.0	194.8	176.6	158.4	151.5
67.5°	270.0	253.7	237.5	221.2	204.9	188.6	172.2	155.9	139.5	123.1	119.9
70°	239.4	223.6	207.9	192.1	176.3	161.4	147.5	133.5	119.6	105.6	103.5
72.5°	210.3	195.1	180.0	164.9	149.7	136.6	125.4	114.1	103.0	91.8	90.1
75°	167.5	153.4	139.2	125.0	110.8	100.3	93.5	86.6	79.7	72.9	71.4
77.5°	125.5	113.0	100.6	88.2	75.8	67.9	64.6	61.3	58.0	54.7	53.8
80°	99.2	88.9	78.6	68.3	58.0	51.8	49.8	47.7	45.7	43.7	42.9
82.5°	75.2	67.1	59.1	51.0	43.0	38.3	36.9	35.5	34.2	32.8	32.3
85°	39.1	34.9	30.7	26.4	22.1	19.7	19.1	18.5	17.9	17.3	17.3
87.5°	11.9	11.0	10.2	9.4	8.6	8.3	8.6	8.9	9.3	9.6	9.6
90°	1.0	3.3	5.6	7.9	10.3	12.2	13.9	15.6	17.3	19.0	20.0
92.5°	19.2	18.9	18.7	18.5	18.3	18.6	19.4	20.3	21.1	22.0	22.6
95°	61.6	54.7	47.7	40.8	33.8	31.0	32.5	34.1	35.5	37.0	38.0
97.5°	122.3	102.7	83.1	63.5	44.0	35.8	39.2	42.6	46.1	49.5	50.3
100°	167.8	138.9	110.0	81.2	52.3	39.7	43.2	46.9	50.5	54.0	55.7
102.5°	217.8	211.7	205.6	199.5	193.4	175.4	145.4	115.5	85.5	55.6	57.8
105°	288.2	294.5	300.8	307.1	313.4	287.8	230.3	172.8	115.3	57.8	60.1
107.5°	368.4	373.4	378.5	383.6	388.8	356.9	287.8	218.9	149.9	81.0	78.6
110°	419.9	424.4	428.8	433.2	437.7	409.4	348.5	287.7	226.8	165.9	144.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	468.5	472.4	476.3	480.2	484.1	478.6	463.5	448.5	433.5	418.4	341.6
115°	545.1	548.7	552.2	555.8	559.4	563.8	569.1	574.4	579.6	584.9	487.3
117.5°	613.5	617.5	621.5	625.5	629.5	633.3	636.9	640.6	644.2	647.8	624.2
120°	663.5	666.7	669.9	673.1	676.2	679.7	683.5	687.2	691.1	694.8	697.3
122.5°	706.1	709.4	712.7	716.0	719.3	723.1	727.2	731.3	735.5	739.6	741.1
125°	770.7	773.4	776.1	778.9	781.6	785.0	789.0	793.0	797.0	801.0	802.5
127.5°	829.3	832.3	835.4	838.4	841.4	844.4	847.4	850.3	853.4	856.4	858.5
130°	866.4	869.8	873.2	876.6	879.9	882.7	885.0	887.3	889.7	892.0	894.3
132.5°	904.3	907.2	910.1	912.9	915.8	918.4	920.7	923.0	925.3	927.6	929.6
135°	953.6	957.0	960.4	963.8	967.1	969.7	971.6	973.5	975.4	977.3	979.5
137.5°	1003.4	1005.8	1008.2	1010.6	1012.9	1015.1	1017.4	1019.5	1021.6	1023.8	1025.8
140°	1036.1	1037.8	1039.5	1041.2	1042.9	1044.8	1047.1	1049.5	1051.8	1054.1	1056.0
142.5°	1063.4	1064.9	1066.4	1067.9	1069.4	1071.6	1074.2	1076.8	1079.5	1082.2	1083.9
145°	1106.3	1106.0	1105.8	1105.6	1105.4	1107.1	1110.6	1114.2	1117.8	1121.4	1122.8
147.5°	1143.6	1142.8	1142.0	1141.2	1140.4	1141.7	1145.3	1148.8	1152.4	1155.9	1157.0
150°	1167.9	1166.4	1164.9	1163.4	1162.0	1162.9	1166.3	1169.7	1173.0	1176.3	1177.7
152.5°	1188.3	1186.7	1185.0	1183.4	1181.8	1182.5	1185.7	1188.9	1192.1	1195.3	1196.6
155°	1218.1	1216.2	1214.3	1212.4	1210.5	1210.9	1213.4	1215.8	1218.4	1220.9	1222.2
157.5°	1241.4	1239.8	1238.2	1236.6	1235.0	1235.1	1236.9	1238.6	1240.4	1242.2	1243.6
160°	1255.1	1253.8	1252.5	1251.2	1250.0	1250.0	1251.2	1252.5	1253.8	1255.1	1256.3
162.5°	1267.2	1266.0	1264.6	1263.4	1262.1	1262.0	1263.1	1264.3	1265.3	1266.4	1267.8
165°	1283.5	1282.2	1280.9	1279.7	1278.4	1278.1	1278.7	1279.4	1280.1	1280.7	1282.1
167.5°	1295.7	1294.4	1293.1	1291.8	1290.6	1290.2	1290.8	1291.4	1292.0	1292.6	1294.1
170°	1302.4	1301.2	1299.9	1298.7	1297.4	1297.0	1297.4	1297.8	1298.2	1298.7	1300.1
172.5°	1307.0	1305.7	1304.5	1303.2	1302.0	1301.5	1302.0	1302.3	1302.8	1303.2	1304.7
175°	1312.9	1311.4	1309.9	1308.5	1307.0	1306.4	1306.9	1307.3	1307.7	1308.1	1309.7
177.5°	1313.8	1312.7	1311.4	1310.3	1309.1	1308.6	1308.8	1308.9	1309.1	1309.3	1310.5
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1001.1	1002.7	1004.3	1005.0	1004.7	1004.3	1004.1	1003.7
5°	993.1	995.0	996.8	997.4	996.8	996.1	995.6	995.0
7.5°	977.0	977.6	978.1	977.9	976.8	975.8	974.7	973.7
10°	961.0	960.4	959.7	958.9	957.6	956.4	955.2	954.0
12.5°	942.5	941.5	940.3	938.8	936.7	934.8	932.7	930.7
15°	908.1	904.2	900.4	897.4	895.5	893.4	891.4	889.4
17.5°	869.2	864.5	860.0	856.0	852.5	849.0	845.5	842.0
20°	842.0	836.9	831.8	827.1	822.6	818.1	813.7	809.2
22.5°	812.1	805.6	799.1	794.2	790.8	787.5	784.2	780.9
25°	762.6	754.3	746.0	740.4	737.4	734.3	731.3	728.3
27.5°	715.4	705.8	696.2	688.8	684.0	679.2	674.4	669.6
30°	682.2	671.8	661.5	653.6	648.1	642.7	637.2	631.8
32.5°	648.6	636.9	625.1	616.6	611.4	606.4	601.2	596.1
35°	596.3	583.5	570.8	562.1	557.7	553.2	548.8	544.4
37.5°	545.2	531.2	517.2	507.6	502.5	497.4	492.3	487.2
40°	511.0	496.7	482.3	472.5	467.3	462.0	456.7	451.5
42.5°	476.6	461.7	446.9	436.9	431.9	426.8	421.7	416.5
45°	426.4	412.1	397.7	388.1	383.3	378.4	373.5	368.6
47.5°	377.6	363.4	349.0	339.7	335.3	330.9	326.5	322.1
50°	346.3	332.3	318.3	309.2	305.0	300.7	296.5	292.2
52.5°	316.6	303.1	289.6	281.0	277.1	273.1	269.2	265.3
55°	271.6	259.4	247.3	239.3	235.5	231.6	227.7	223.9
57.5°	230.6	219.5	208.4	201.2	198.0	194.7	191.5	188.2
60°	202.4	192.1	181.7	175.0	171.7	168.5	165.2	162.0
62.5°	177.9	168.0	158.2	152.3	150.3	148.5	146.5	144.5
65°	144.6	137.8	130.9	127.2	126.5	125.9	125.3	124.8
67.5°	116.7	113.6	110.5	108.5	107.9	107.3	106.6	105.9
70°	101.6	99.5	97.5	96.1	95.2	94.4	93.6	92.8
72.5°	88.4	86.7	85.0	83.9	83.4	82.9	82.4	81.9
75°	70.0	68.6	67.1	66.3	66.2	66.0	65.7	65.5
77.5°	53.0	52.2	51.4	50.8	50.5	50.2	49.8	49.5
80°	42.1	41.3	40.5	40.0	40.0	40.0	40.0	40.0
82.5°	31.8	31.3	30.9	30.6	30.6	30.6	30.6	30.6
85°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
87.5°	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.3
90°	21.0	22.1	23.2	23.9	24.3	24.8	25.1	25.6
92.5°	23.1	23.6	24.2	24.6	24.9	25.1	25.3	25.6
95°	39.1	40.1	41.2	41.6	41.4	41.2	40.9	40.8
97.5°	51.2	52.0	52.9	53.4	53.7	53.9	54.1	54.4
100°	57.4	59.1	60.8	61.8	62.2	62.7	63.1	63.5
102.5°	59.9	62.2	64.3	65.7	66.3	66.9	67.5	68.0
105°	62.4	64.7	67.1	68.7	69.6	70.4	71.2	72.1
107.5°	76.2	73.8	71.5	70.8	71.6	72.4	73.3	74.1
110°	123.8	102.7	81.6	71.5	72.3	73.2	74.0	74.9





TEST NUMBER: P331702-940

CATALOG NUMBER: SA2XXRDIP-C675D1080U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	264.7	187.9	111.0	72.9	73.7	74.3	75.0	75.6
115°	389.8	292.3	194.7	138.4	123.2	108.1	92.9	77.8
117.5°	600.7	577.0	553.5	516.7	466.9	417.1	367.2	317.4
120°	699.9	702.4	705.0	692.0	663.5	635.1	606.6	578.3
122.5°	742.6	744.1	745.6	743.6	738.2	732.6	727.1	721.6
125°	804.0	805.4	806.9	808.0	808.6	809.2	809.9	810.5
127.5°	860.7	862.8	865.0	866.1	866.2	866.4	866.5	866.6
130°	896.6	898.9	901.3	902.3	902.1	901.9	901.7	901.5
132.5°	931.6	933.6	935.6	936.5	936.2	936.0	935.9	935.6
135°	981.5	983.6	985.7	986.6	986.1	985.7	985.3	984.9
137.5°	1027.9	1029.9	1032.0	1032.7	1032.0	1031.3	1030.6	1029.8
140°	1057.9	1059.8	1061.7	1062.1	1061.0	1060.0	1058.9	1057.9
142.5°	1085.6	1087.4	1089.0	1089.4	1088.3	1087.3	1086.3	1085.2
145°	1124.4	1125.8	1127.3	1127.5	1126.5	1125.4	1124.4	1123.3
147.5°	1158.1	1159.2	1160.3	1160.4	1159.5	1158.6	1157.7	1156.8
150°	1178.9	1180.2	1181.4	1181.5	1180.4	1179.5	1178.4	1177.3
152.5°	1197.8	1199.2	1200.4	1200.3	1198.9	1197.6	1196.1	1194.8
155°	1223.4	1224.8	1226.0	1225.7	1224.1	1222.4	1220.8	1219.1
157.5°	1245.0	1246.4	1247.9	1247.8	1246.2	1244.5	1242.9	1241.2
160°	1257.6	1258.8	1260.1	1260.0	1258.6	1257.0	1255.6	1254.1
162.5°	1269.3	1270.7	1272.2	1271.9	1270.2	1268.4	1266.5	1264.7
165°	1283.6	1285.0	1286.6	1286.6	1285.0	1283.6	1282.1	1280.7
167.5°	1295.6	1297.0	1298.5	1298.2	1296.4	1294.5	1292.6	1290.7
170°	1301.6	1303.1	1304.6	1304.3	1302.4	1300.6	1298.7	1296.7
172.5°	1306.2	1307.6	1309.1	1308.9	1307.0	1305.1	1303.2	1301.3
175°	1311.1	1312.6	1314.0	1313.8	1311.6	1309.5	1307.4	1305.3
177.5°	1311.6	1312.8	1314.0	1313.8	1312.3	1310.8	1309.3	1307.8
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0

(END OF REPORT)