

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: P331372-930

Luminaire Tested: **SA2XXDIP-C675D1080U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331372-930
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: SA2XXDIP-C675D1080U930-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

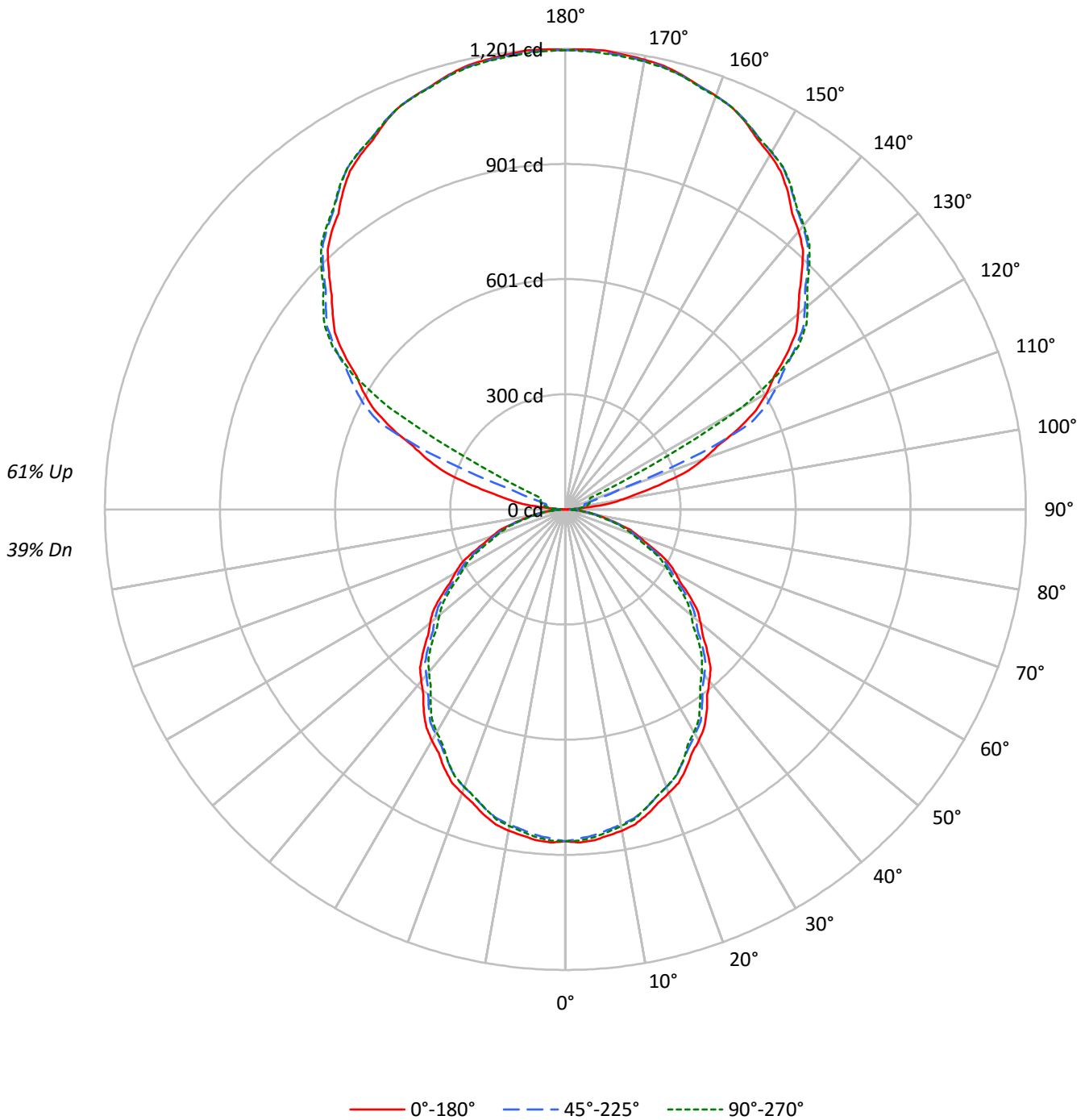
Lumens per Lamp: N/A
Luminaire Lumens: 5715.3 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

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	95	95	95	95	77	77	77	61	61	61	46	46	46	39				
1	95	91	87	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32				
2	87	79	73	68	78	72	67	63	59	55	52	47	44	42	35	34	32	27				
3	79	70	63	57	72	64	57	52	52	48	44	41	38	36	31	29	28	23				
4	72	62	54	48	65	56	50	44	46	41	37	37	33	30	28	26	24	20				
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	23	21	17				
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18	15				
7	56	44	36	31	51	41	34	29	34	28	25	27	23	20	21	18	16	13				
8	52	40	33	27	47	37	30	25	31	25	22	25	21	18	19	16	14	12				
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11				
10	45	33	26	22	41	31	25	20	26	21	17	21	17	15	16	14	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13976	13976	13976
5°	14029	13827	13908
10°	13946	13686	13754
15°	13772	13508	13494
20°	13527	13242	13228
25°	13286	12916	12916
30°	12972	12616	12506
35°	12682	12254	12073
40°	12313	11894	11666
45°	11953	11536	11250
50°	11560	11163	10766
55°	11153	10731	10331
60°	10698	10214	9836
65°	10208	9700	9253
70°	9588	9073	8644
75°	8721	8359	8153
80°	7736	7504	7122
85°	6336	6002	5391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.4	1.4
10°-20°	229.0	4.0
20°-30°	336.6	5.9
30°-40°	391.0	6.8
40°-50°	390.6	6.8
50°-60°	340.6	6.0
60°-70°	251.9	4.4
70°-80°	142.7	2.5
80°-90°	41.3	0.7
90°-100°	40.0	0.7
100°-110°	146.5	2.6
110°-120°	391.7	6.9
120°-130°	646.5	11.3
130°-140°	687.6	12.0
140°-150°	639.1	11.2
150°-160°	513.8	9.0
160°-170°	331.1	5.8
170°-180°	114.0	2.0
0°-30°	647.0	11.3
0°-40°	1038.1	18.2
0°-60°	1769.3	31.0
0°-90°	2205.2	38.6
90°-120°	578.1	10.1
90°-150°	2551.3	44.6
90°-180°	3510.0	61.4
0°-180°	5715.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	866	862	853	859	858	82
15°	824	819	808	811	807	232
25°	746	739	725	726	725	343
35°	643	635	622	617	612	402
45°	524	517	505	496	493	404
55°	396	391	381	372	367	354
65°	267	262	254	247	242	264
75°	140	138	134	129	131	149
85°	34	33	32	30	29	39
90°	1	10	17	22	23	4
95°	56	30	34	38	37	69
105°	264	275	53	62	66	282
115°	498	513	535	152	71	491
125°	705	716	732	738	741	628
135°	872	885	894	902	900	673
145°	1012	1011	1025	1031	1027	632
155°	1114	1107	1116	1121	1115	513
165°	1174	1169	1171	1176	1171	331
175°	1200	1195	1196	1201	1193	114
180°	1198	1198	1198	1198	1198	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6
2.5°	869.6	868.9	868.1	867.4	866.7	865.4	863.8	862.2	860.5	858.9	860.4
5°	865.6	864.9	864.1	863.4	862.7	861.3	859.2	857.2	855.2	853.1	854.6
7.5°	857.9	856.8	855.7	854.5	853.4	851.7	849.7	847.6	845.5	843.4	844.9
10°	850.6	849.3	848.0	846.7	845.5	843.7	841.5	839.3	837.0	834.8	836.3
12.5°	840.7	839.5	838.3	837.1	836.0	834.4	832.1	829.9	827.7	825.5	826.6
15°	823.9	822.9	821.7	820.7	819.5	817.7	815.4	812.9	810.6	808.1	808.9
17.5°	802.7	801.5	800.5	799.3	798.3	796.5	794.0	791.6	789.1	786.7	787.6
20°	787.3	786.3	785.1	784.0	782.9	781.1	778.4	775.9	773.3	770.7	771.3
22.5°	772.0	770.5	768.9	767.4	765.8	763.9	761.4	759.0	756.5	754.1	754.2
25°	745.8	744.3	742.8	741.3	739.8	737.5	734.3	731.2	728.1	725.0	725.3
27.5°	715.8	714.4	713.1	711.8	710.5	708.6	706.0	703.6	701.1	698.6	698.1
30°	695.8	694.3	692.8	691.4	689.9	687.8	685.0	682.2	679.5	676.7	676.1
32.5°	674.5	673.3	672.1	670.9	669.8	667.7	664.8	661.9	658.9	656.0	655.0
35°	643.4	641.6	639.7	637.8	635.9	633.6	630.6	627.6	624.7	621.7	620.6
37.5°	608.2	606.6	605.0	603.3	601.8	599.4	596.5	593.5	590.6	587.6	586.2
40°	584.2	582.8	581.3	579.8	578.4	576.2	573.2	570.2	567.3	564.3	562.6
42.5°	561.0	559.5	558.0	556.5	555.1	552.9	549.8	546.9	544.0	541.0	539.2
45°	523.5	522.2	520.9	519.7	518.4	516.3	513.6	510.8	508.0	505.2	503.2
47.5°	486.2	485.0	483.8	482.6	481.4	479.3	476.4	473.5	470.7	467.7	465.6
50°	460.2	459.3	458.4	457.5	456.6	454.8	452.2	449.6	447.0	444.4	441.9
52.5°	435.0	433.7	432.5	431.3	430.1	428.3	425.8	423.4	420.9	418.5	416.4
55°	396.2	395.1	394.0	392.8	391.8	390.0	387.8	385.6	383.4	381.2	379.0
57.5°	357.2	356.4	355.5	354.6	353.7	352.0	349.6	347.2	344.7	342.3	340.1
60°	331.3	330.5	329.8	329.1	328.3	326.6	324.1	321.5	318.9	316.3	314.2
62.5°	306.0	304.8	303.6	302.4	301.3	299.6	297.7	295.6	293.7	291.6	289.8
65°	267.2	266.0	265.0	263.8	262.7	261.2	259.4	257.6	255.7	253.9	252.2
67.5°	227.7	226.8	225.9	225.0	224.1	222.9	221.2	219.6	217.9	216.2	214.9
70°	203.1	202.4	201.6	200.9	200.2	198.9	197.2	195.6	194.0	192.2	190.9
72.5°	177.8	177.0	176.3	175.5	174.8	173.9	172.8	171.8	170.7	169.6	168.4
75°	139.8	139.4	139.1	138.7	138.4	137.7	136.8	135.8	134.9	134.0	132.9
77.5°	105.9	105.3	104.6	104.0	103.4	102.9	102.5	102.1	101.7	101.3	100.9
80°	83.2	83.1	82.8	82.7	82.5	82.2	81.9	81.4	81.1	80.7	80.1
82.5°	62.0	61.9	61.9	61.8	61.8	61.6	61.4	61.2	61.0	60.7	60.1
85°	34.2	33.9	33.8	33.6	33.3	33.2	33.0	32.9	32.6	32.4	31.9
87.5°	12.1	12.3	12.4	12.6	12.6	12.7	12.7	12.8	12.8	12.8	12.6
90°	0.9	3.0	5.1	7.3	9.4	11.2	12.7	14.3	15.8	17.4	18.3
92.5°	17.5	17.3	17.1	17.0	16.7	17.0	17.8	18.6	19.3	20.1	20.6
95°	56.3	50.0	43.6	37.3	30.9	28.4	29.8	31.1	32.4	33.8	34.7
97.5°	111.8	93.9	76.0	58.0	40.2	32.8	35.9	39.0	42.2	45.2	46.0
100°	153.4	127.0	100.6	74.3	47.9	36.3	39.5	42.9	46.1	49.4	51.0
102.5°	199.2	193.6	188.0	182.4	176.8	160.4	133.0	105.6	78.2	50.8	52.8
105°	263.5	269.3	275.0	280.8	286.6	263.2	210.6	158.0	105.4	52.8	55.0
107.5°	336.8	341.4	346.1	350.7	355.5	326.3	263.2	200.2	137.1	74.0	71.8
110°	383.9	388.0	392.1	396.1	400.1	374.3	318.6	263.0	207.3	151.6	132.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	428.4	431.9	435.5	439.0	442.6	437.6	423.8	410.1	396.3	382.5	312.3
115°	498.4	501.7	504.9	508.2	511.4	515.5	520.3	525.1	529.9	534.8	445.6
117.5°	560.9	564.6	568.3	571.9	575.6	579.0	582.4	585.7	589.0	592.3	570.7
120°	606.7	609.6	612.5	615.4	618.2	621.4	624.9	628.4	631.9	635.3	637.6
122.5°	645.6	648.6	651.6	654.7	657.7	661.1	664.9	668.6	672.5	676.2	677.6
125°	704.7	707.1	709.6	712.2	714.6	717.7	721.4	725.0	728.7	732.4	733.7
127.5°	758.2	761.0	763.8	766.5	769.3	772.0	774.8	777.5	780.2	783.0	785.0
130°	792.1	795.2	798.3	801.4	804.5	807.1	809.2	811.3	813.4	815.5	817.7
132.5°	826.8	829.5	832.1	834.7	837.3	839.7	841.8	843.9	846.0	848.2	849.9
135°	871.9	875.0	878.1	881.2	884.2	886.6	888.4	890.1	891.9	893.6	895.5
137.5°	917.5	919.7	921.8	924.0	926.1	928.1	930.2	932.1	934.1	936.0	937.9
140°	947.3	948.8	950.4	951.9	953.5	955.3	957.4	959.5	961.6	963.8	965.5
142.5°	972.2	973.6	975.0	976.4	977.8	979.7	982.1	984.6	987.0	989.4	991.0
145°	1011.5	1011.2	1011.1	1010.9	1010.6	1012.2	1015.5	1018.7	1022.1	1025.3	1026.6
147.5°	1045.6	1044.9	1044.2	1043.4	1042.7	1043.9	1047.2	1050.4	1053.6	1056.9	1057.9
150°	1067.8	1066.4	1065.1	1063.7	1062.4	1063.2	1066.3	1069.4	1072.5	1075.5	1076.8
152.5°	1086.5	1085.0	1083.5	1082.0	1080.5	1081.2	1084.1	1087.0	1090.0	1092.9	1094.1
155°	1113.7	1112.0	1110.3	1108.5	1106.8	1107.1	1109.4	1111.7	1114.0	1116.3	1117.4
157.5°	1135.1	1133.6	1132.1	1130.7	1129.2	1129.3	1130.9	1132.5	1134.1	1135.7	1137.0
160°	1147.5	1146.4	1145.2	1144.0	1142.9	1142.9	1144.0	1145.2	1146.4	1147.5	1148.7
162.5°	1158.6	1157.5	1156.3	1155.1	1154.0	1153.9	1154.9	1155.9	1156.9	1157.9	1159.2
165°	1173.5	1172.3	1171.2	1170.0	1168.9	1168.6	1169.1	1169.8	1170.4	1170.9	1172.2
167.5°	1184.6	1183.5	1182.3	1181.1	1180.0	1179.7	1180.2	1180.7	1181.3	1181.9	1183.2
170°	1190.8	1189.7	1188.5	1187.4	1186.3	1185.9	1186.3	1186.6	1187.0	1187.4	1188.7
172.5°	1195.0	1193.8	1192.7	1191.6	1190.4	1190.0	1190.4	1190.7	1191.2	1191.6	1192.9
175°	1200.4	1199.1	1197.7	1196.4	1195.0	1194.5	1194.9	1195.3	1195.6	1196.0	1197.4
177.5°	1201.3	1200.2	1199.1	1198.0	1196.9	1196.5	1196.6	1196.8	1196.9	1197.1	1198.2
180°	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6
2.5°	861.9	863.4	864.9	865.4	865.1	864.9	864.5	864.3
5°	856.1	857.5	859.0	859.6	859.2	858.8	858.5	858.1
7.5°	846.4	847.9	849.4	849.9	849.5	849.1	848.7	848.3
10°	837.7	839.3	840.7	841.1	840.7	840.1	839.5	838.9
12.5°	827.5	828.6	829.6	829.9	829.5	829.2	828.8	828.3
15°	809.7	810.4	811.1	811.1	810.1	809.2	808.3	807.3
17.5°	788.4	789.2	790.1	790.1	789.2	788.3	787.4	786.5
20°	771.8	772.4	772.9	772.8	772.1	771.4	770.6	769.9
22.5°	754.3	754.4	754.5	754.3	753.9	753.4	753.0	752.6
25°	725.7	726.0	726.4	726.4	726.0	725.7	725.3	725.0
27.5°	697.5	697.0	696.4	695.7	694.8	693.9	693.0	692.1
30°	675.6	675.0	674.4	673.8	673.0	672.3	671.6	670.8
32.5°	654.0	653.1	652.0	651.2	650.4	649.7	648.9	648.2
35°	619.5	618.4	617.3	616.3	615.4	614.4	613.5	612.5
37.5°	584.9	583.5	582.1	581.0	580.1	579.2	578.4	577.5
40°	561.0	559.3	557.7	556.4	555.7	555.0	554.2	553.5
42.5°	537.4	535.6	533.8	532.3	531.2	530.3	529.2	528.2
45°	501.2	499.1	497.1	495.7	495.0	494.2	493.5	492.7
47.5°	463.5	461.3	459.2	457.5	456.5	455.4	454.4	453.3
50°	439.3	436.7	434.1	432.4	431.4	430.5	429.6	428.6
52.5°	414.2	412.1	409.9	408.2	407.0	405.8	404.6	403.3
55°	376.7	374.5	372.3	370.7	369.8	368.9	367.9	367.0
57.5°	337.9	335.7	333.5	332.1	331.3	330.7	330.0	329.2
60°	312.2	310.1	308.1	306.9	306.3	305.7	305.2	304.6
62.5°	287.9	286.0	284.1	282.8	282.1	281.4	280.7	280.0
65°	250.5	248.8	247.2	245.9	245.0	244.0	243.1	242.2
67.5°	213.6	212.4	211.1	210.0	209.3	208.6	207.8	207.1
70°	189.6	188.4	187.1	186.1	185.3	184.6	183.8	183.1
72.5°	167.1	165.8	164.4	163.5	162.9	162.3	161.8	161.1
75°	131.8	130.7	129.6	129.2	129.6	130.0	130.3	130.7
77.5°	100.3	99.7	99.1	98.7	98.1	97.6	97.1	96.5
80°	79.7	79.1	78.5	78.0	77.7	77.3	77.0	76.6
82.5°	59.4	58.6	58.0	57.6	57.5	57.4	57.3	57.2
85°	31.4	30.8	30.2	29.8	29.7	29.5	29.4	29.1
87.5°	12.3	12.1	11.8	11.7	11.6	11.5	11.4	11.3
90°	19.2	20.2	21.2	21.9	22.3	22.7	23.0	23.4
92.5°	21.1	21.6	22.1	22.5	22.7	22.9	23.2	23.4
95°	35.7	36.7	37.7	38.1	37.8	37.7	37.4	37.3
97.5°	46.8	47.5	48.3	48.8	49.1	49.3	49.5	49.7
100°	52.5	54.1	55.6	56.5	56.9	57.3	57.7	58.0
102.5°	54.8	56.8	58.8	60.1	60.6	61.1	61.7	62.2
105°	57.1	59.2	61.3	62.8	63.6	64.3	65.1	65.9
107.5°	69.7	67.5	65.4	64.7	65.5	66.2	67.0	67.8
110°	113.2	93.9	74.6	65.4	66.1	66.9	67.7	68.5



TEST NUMBER: P331372-930

CATALOG NUMBER: SA2XXDIP-C675D1080U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	242.1	171.8	101.5	66.7	67.3	67.9	68.6	69.1
115°	356.4	267.3	178.1	126.5	112.7	98.8	85.0	71.1
117.5°	549.2	527.6	506.1	472.5	426.9	381.3	335.7	290.2
120°	639.9	642.2	644.6	632.7	606.7	580.7	554.6	528.7
122.5°	679.0	680.4	681.8	679.9	674.9	669.8	664.8	659.7
125°	735.1	736.4	737.8	738.7	739.3	739.9	740.5	741.0
127.5°	786.9	788.9	790.8	791.9	792.0	792.1	792.2	792.3
130°	819.8	821.9	824.0	825.0	824.8	824.6	824.4	824.3
132.5°	851.7	853.6	855.4	856.2	856.0	855.8	855.7	855.4
135°	897.4	899.4	901.2	902.0	901.6	901.2	900.9	900.5
137.5°	939.8	941.7	943.5	944.2	943.5	942.9	942.2	941.6
140°	967.3	969.0	970.7	971.1	970.1	969.1	968.2	967.3
142.5°	992.5	994.2	995.7	996.1	995.1	994.1	993.2	992.2
145°	1028.0	1029.3	1030.7	1030.9	1030.0	1029.0	1028.0	1027.0
147.5°	1058.8	1059.9	1060.9	1060.9	1060.1	1059.3	1058.5	1057.7
150°	1077.9	1079.0	1080.2	1080.3	1079.3	1078.4	1077.4	1076.4
152.5°	1095.2	1096.4	1097.6	1097.5	1096.2	1094.9	1093.6	1092.4
155°	1118.6	1119.8	1121.0	1120.7	1119.2	1117.7	1116.1	1114.6
157.5°	1138.3	1139.6	1140.9	1140.8	1139.4	1137.8	1136.4	1134.8
160°	1149.8	1151.0	1152.1	1152.0	1150.7	1149.3	1148.0	1146.6
162.5°	1160.5	1161.8	1163.2	1162.9	1161.3	1159.7	1158.0	1156.3
165°	1173.6	1174.9	1176.3	1176.3	1174.9	1173.6	1172.2	1170.9
167.5°	1184.5	1185.9	1187.2	1187.0	1185.3	1183.6	1181.9	1180.1
170°	1190.1	1191.4	1192.8	1192.5	1190.8	1189.1	1187.4	1185.6
172.5°	1194.3	1195.6	1196.9	1196.8	1195.0	1193.3	1191.6	1189.8
175°	1198.7	1200.1	1201.4	1201.2	1199.2	1197.3	1195.4	1193.4
177.5°	1199.2	1200.3	1201.4	1201.3	1199.9	1198.5	1197.1	1195.7
180°	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8	1197.8

(END OF REPORT)