

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: P331369-830

Luminaire Tested: **SA2XXDIP-C675D1080U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331369-830
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-C675D1080U830-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

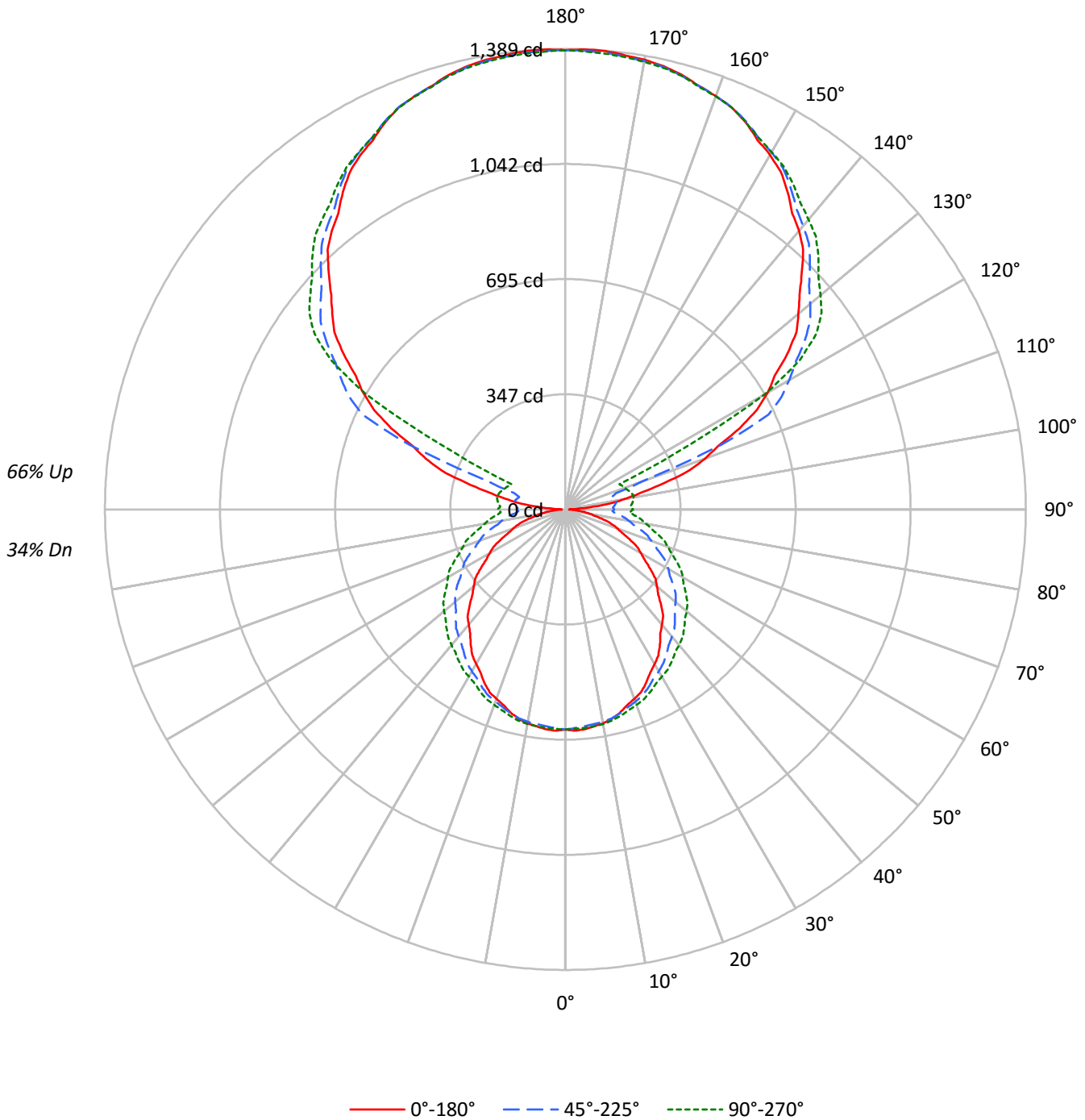
Lumens per Lamp: N/A
Luminaire Lumens: 6594.2 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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



TEST NUMBER: P331369-830
CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331369-830

CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	23	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	25	22	21	18	16	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	34	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8
10	43	32	24	20	39	29	22	18	23	18	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10719	10719	10719
5°	10771	10318	10278
10°	10704	10013	9900
15°	10557	9691	9503
20°	10370	9345	9120
25°	10186	9011	8772
30°	9928	8668	8421
35°	9665	8338	8176
40°	9388	8055	7929
45°	9124	7803	7719
50°	8843	7574	7511
55°	8548	7331	7300
60°	8188	7076	7078
65°	7811	6777	6812
70°	7390	6457	6525
75°	6853	6143	6262
80°	6004	5822	5995
85°	5192	5544	5785



TEST NUMBER: P331369-830

CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	1.0
10°-20°	180.4	2.7
20°-30°	273.4	4.1
30°-40°	333.0	5.0
40°-50°	358.2	5.4
50°-60°	347.9	5.3
60°-70°	303.7	4.6
70°-80°	233.8	3.5
80°-90°	160.3	2.4
90°-100°	154.3	2.3
100°-110°	248.3	3.8
110°-120°	504.9	7.7
120°-130°	776.5	11.8
130°-140°	807.1	12.2
140°-150°	740.9	11.2
150°-160°	594.0	9.0
160°-170°	382.8	5.8
170°-180°	131.8	2.0
0°-30°	516.7	7.8
0°-40°	849.6	12.9
0°-60°	1555.7	23.6
0°-90°	2253.6	34.2
90°-120°	907.6	13.8
90°-150°	3232.1	49.0
90°-180°	4341.0	65.8
0°-180°	6594.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	666	663	657	663	662	63
15°	635	637	637	645	645	179
25°	577	584	593	604	607	265
35°	498	514	532	552	560	311
45°	408	434	468	496	507	315
55°	313	348	397	431	444	279
65°	214	261	318	356	370	212
75°	118	173	234	274	288	125
85°	35	94	156	195	210	37
90°	11	78	147	189	204	10
95°	73	88	150	190	202	86
105°	309	352	144	187	203	331
115°	580	610	676	262	179	571
125°	816	832	879	911	924	728
135°	1009	1025	1044	1072	1080	779
145°	1169	1169	1185	1197	1198	731
155°	1288	1280	1290	1296	1288	593
165°	1357	1351	1354	1360	1354	383
175°	1388	1381	1383	1389	1380	132
180°	1385	1385	1385	1385	1385	



TEST NUMBER: P331369-830
 CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	667.8	667.2	666.8	666.2	665.7	664.9	663.6	662.4	661.3	660.1	660.9
5°	665.8	665.2	664.6	663.9	663.3	662.3	661.0	659.8	658.5	657.1	658.5
7.5°	659.9	659.4	659.0	658.6	658.2	657.4	656.5	655.4	654.5	653.6	655.1
10°	655.3	654.8	654.4	653.9	653.6	653.0	652.3	651.8	651.1	650.4	652.1
12.5°	647.5	647.6	647.7	647.8	647.9	647.7	647.2	646.8	646.3	645.8	647.5
15°	635.1	635.5	635.9	636.3	636.8	637.0	637.0	637.0	637.0	637.0	638.9
17.5°	618.9	619.8	620.7	621.6	622.5	623.3	624.0	624.6	625.3	626.0	628.0
20°	608.1	609.2	610.2	611.3	612.4	613.3	614.2	615.1	616.0	616.8	619.2
22.5°	596.5	597.8	599.1	600.3	601.5	602.8	604.0	605.1	606.3	607.6	609.9
25°	577.3	578.8	580.3	581.8	583.3	585.0	586.9	588.9	590.8	592.7	595.3
27.5°	554.2	556.7	559.1	561.6	564.0	566.4	568.6	570.9	573.2	575.4	578.6
30°	538.9	541.6	544.4	547.1	550.0	552.7	555.5	558.3	561.1	563.8	567.2
32.5°	521.9	525.0	528.1	531.2	534.4	537.6	540.9	544.1	547.4	550.7	554.7
35°	497.5	501.1	504.7	508.3	512.0	515.9	519.9	524.0	528.0	532.1	536.8
37.5°	470.9	475.1	479.3	483.4	487.7	492.4	497.7	502.9	508.1	513.4	518.7
40°	453.2	457.9	462.6	467.3	472.0	477.2	483.1	488.8	494.6	500.3	505.9
42.5°	436.3	440.9	445.6	450.3	455.1	460.7	467.4	474.0	480.6	487.3	493.3
45°	407.9	413.8	419.5	425.3	431.0	437.7	445.2	452.7	460.1	467.6	474.3
47.5°	380.0	386.3	392.7	398.9	405.2	412.7	421.5	430.3	439.0	447.8	454.8
50°	360.8	367.5	374.1	380.7	387.3	395.5	405.1	414.7	424.3	433.9	441.2
52.5°	342.3	349.3	356.3	363.3	370.2	378.8	388.9	399.1	409.2	419.3	426.8
55°	312.7	320.4	328.1	335.8	343.5	352.9	364.0	375.1	386.3	397.4	405.1
57.5°	283.4	292.2	300.9	309.5	318.2	328.2	339.5	350.8	362.2	373.5	381.8
60°	262.7	271.8	281.1	290.3	299.4	310.2	322.3	334.5	346.7	358.9	367.0
62.5°	244.2	253.7	263.3	272.8	282.4	293.2	305.4	317.5	329.8	342.0	350.6
65°	213.6	224.0	234.6	245.1	255.5	267.0	279.7	292.3	304.9	317.5	326.3
67.5°	185.5	196.4	207.5	218.4	229.3	241.2	254.1	267.0	279.9	292.8	301.7
70°	165.5	176.6	187.8	198.9	210.0	222.2	235.4	248.6	261.9	275.2	284.4
72.5°	147.0	158.4	169.9	181.4	192.8	205.3	218.8	232.1	245.6	259.0	268.1
75°	118.4	130.4	142.3	154.3	166.3	179.1	192.7	206.4	220.1	233.8	243.0
77.5°	90.7	103.2	115.7	128.2	140.7	154.0	167.9	181.8	195.7	209.5	218.8
80°	72.2	85.2	98.2	111.3	124.3	137.8	151.7	165.6	179.5	193.4	202.4
82.5°	56.7	69.7	82.5	95.4	108.3	121.7	135.8	149.9	163.9	178.0	187.0
85°	34.7	47.9	61.2	74.4	87.7	101.1	114.8	128.5	142.2	155.9	164.9
87.5°	19.0	32.3	45.5	58.7	72.0	85.7	99.6	113.7	127.7	141.8	150.7
90°	10.7	25.4	40.3	55.1	70.0	85.2	100.7	116.1	131.6	147.0	156.7
92.5°	29.1	40.4	51.7	63.1	74.4	87.1	101.1	115.2	129.2	143.4	152.3
95°	72.9	75.5	78.2	81.0	83.6	92.2	106.6	120.9	135.3	149.8	159.0
97.5°	136.0	124.2	112.4	100.7	88.9	91.0	106.9	122.8	138.7	154.7	163.4
100°	184.1	161.5	138.9	116.3	93.7	90.3	106.0	121.8	137.6	153.4	163.1
102.5°	236.2	237.0	237.8	238.6	239.3	229.7	209.6	189.6	169.6	149.6	159.6
105°	309.4	322.3	335.2	348.1	360.9	342.5	292.8	243.2	193.5	143.8	153.8
107.5°	394.0	404.4	414.7	425.0	435.4	409.4	347.1	284.9	222.7	160.4	165.1
110°	447.7	456.7	465.6	474.6	483.5	461.1	407.2	353.4	299.4	245.6	230.2



TEST NUMBER: P331369-830

CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	499.0	506.7	514.4	522.3	530.0	530.8	524.9	519.0	513.0	507.1	432.7
115°	579.9	586.1	592.3	598.4	604.5	615.2	630.4	645.5	660.7	675.9	579.3
117.5°	651.4	657.1	662.9	668.6	674.5	683.7	696.4	709.2	721.9	734.6	716.0
120°	704.3	708.4	712.7	716.8	721.0	729.4	742.0	754.5	767.1	779.7	788.3
122.5°	749.1	753.0	756.9	760.7	764.6	772.7	785.1	797.5	809.9	822.4	829.7
125°	816.5	819.4	822.3	825.2	828.1	835.1	846.1	857.2	868.3	879.4	886.7
127.5°	878.4	881.5	884.4	887.4	890.4	896.3	904.9	913.6	922.3	930.9	938.5
130°	917.8	921.1	924.4	927.7	931.1	936.2	943.2	950.2	957.1	964.0	971.6
132.5°	957.8	960.6	963.5	966.2	969.0	973.5	979.3	985.2	991.2	997.1	1004.1
135°	1008.9	1012.5	1016.1	1019.6	1023.2	1027.0	1031.1	1035.3	1039.4	1043.6	1050.4
137.5°	1061.7	1064.1	1066.6	1069.0	1071.5	1074.3	1077.5	1080.7	1083.9	1087.1	1093.3
140°	1096.1	1097.7	1099.3	1100.8	1102.4	1104.6	1107.5	1110.3	1113.2	1116.1	1121.5
142.5°	1124.9	1126.3	1127.8	1129.2	1130.5	1132.7	1135.6	1138.4	1141.3	1144.2	1148.8
145°	1169.3	1169.0	1168.8	1168.7	1168.4	1170.2	1173.9	1177.7	1181.6	1185.3	1188.2
147.5°	1208.8	1208.0	1207.1	1206.3	1205.4	1206.8	1210.6	1214.3	1218.0	1221.8	1223.1
150°	1234.4	1232.8	1231.3	1229.7	1228.2	1229.2	1232.8	1236.3	1239.9	1243.4	1244.8
152.5°	1256.0	1254.3	1252.5	1250.8	1249.2	1249.9	1253.3	1256.7	1260.1	1263.5	1264.8
155°	1287.5	1285.5	1283.6	1281.5	1279.5	1279.9	1282.5	1285.2	1287.9	1290.5	1291.8
157.5°	1312.2	1310.5	1308.8	1307.1	1305.4	1305.5	1307.4	1309.2	1311.1	1313.0	1314.5
160°	1326.6	1325.3	1323.9	1322.6	1321.3	1321.3	1322.6	1323.9	1325.3	1326.6	1327.9
162.5°	1339.4	1338.1	1336.7	1335.4	1334.1	1334.0	1335.1	1336.3	1337.5	1338.6	1340.1
165°	1356.7	1355.3	1354.0	1352.6	1351.3	1350.9	1351.6	1352.4	1353.0	1353.7	1355.2
167.5°	1369.5	1368.2	1366.8	1365.5	1364.1	1363.8	1364.4	1365.0	1365.6	1366.3	1367.8
170°	1376.7	1375.4	1374.0	1372.7	1371.4	1370.9	1371.4	1371.8	1372.2	1372.7	1374.2
172.5°	1381.5	1380.2	1378.8	1377.5	1376.2	1375.7	1376.2	1376.6	1377.1	1377.5	1379.0
175°	1387.7	1386.2	1384.6	1383.1	1381.5	1380.9	1381.4	1381.9	1382.2	1382.7	1384.3
177.5°	1388.7	1387.5	1386.2	1385.0	1383.7	1383.2	1383.4	1383.6	1383.7	1383.9	1385.2
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7



TEST NUMBER: P331369-830

CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	661.8	662.6	663.5	663.7	663.4	663.1	662.7	662.4
5°	659.8	661.0	662.3	662.9	662.6	662.4	662.2	661.9
7.5°	656.6	658.2	659.7	660.3	660.2	659.9	659.7	659.5
10°	653.8	655.5	657.3	658.0	657.8	657.6	657.4	657.1
12.5°	649.2	650.9	652.7	653.4	653.2	653.0	652.8	652.5
15°	640.8	642.7	644.7	645.5	645.4	645.1	644.9	644.7
17.5°	630.0	632.1	634.0	635.1	635.1	635.1	635.1	635.1
20°	621.5	623.9	626.1	627.4	627.4	627.4	627.4	627.4
22.5°	612.3	614.6	616.9	618.3	618.6	619.0	619.3	619.6
25°	597.9	600.4	602.9	604.5	605.2	605.9	606.5	607.2
27.5°	581.9	585.1	588.4	590.2	590.7	591.2	591.6	592.1
30°	570.7	574.1	577.5	579.6	580.2	580.9	581.5	582.1
32.5°	558.6	562.6	566.5	569.0	570.2	571.4	572.5	573.6
35°	541.5	546.2	550.9	554.0	555.5	557.0	558.5	560.0
37.5°	523.9	529.0	534.3	537.7	539.3	540.8	542.4	544.0
40°	511.4	517.0	522.5	526.3	528.2	530.2	532.1	534.0
42.5°	499.4	505.5	511.5	515.6	517.5	519.4	521.3	523.2
45°	480.9	487.5	494.2	498.5	500.7	502.8	504.9	507.1
47.5°	461.7	468.6	475.5	480.1	482.5	484.8	487.2	489.6
50°	448.5	455.7	463.1	467.9	470.2	472.6	474.9	477.2
52.5°	434.2	441.7	449.1	454.1	456.6	459.1	461.7	464.2
55°	412.7	420.5	428.2	433.4	436.2	438.9	441.8	444.5
57.5°	390.1	398.4	406.7	412.3	415.1	417.9	420.8	423.6
60°	375.1	383.2	391.4	397.0	399.9	402.9	406.0	409.0
62.5°	359.2	367.9	376.5	382.3	385.0	387.9	390.7	393.5
65°	335.1	343.8	352.6	358.4	361.2	363.9	366.7	369.5
67.5°	310.6	319.4	328.3	334.2	337.1	340.0	342.9	345.8
70°	293.6	302.7	312.0	317.8	320.4	323.0	325.6	328.1
72.5°	277.1	286.1	295.1	301.1	304.3	307.4	310.4	313.5
75°	252.2	261.4	270.6	276.5	279.4	282.1	284.9	287.7
77.5°	227.9	237.0	246.2	252.2	255.2	258.3	261.2	264.2
80°	211.3	220.4	229.3	235.4	238.3	241.3	244.3	247.3
82.5°	196.0	204.9	214.0	219.8	222.6	225.5	228.3	231.1
85°	173.8	182.9	191.8	197.7	200.8	203.8	206.8	209.7
87.5°	159.7	168.6	177.6	183.5	186.2	189.1	191.9	194.7
90°	166.4	176.1	185.7	192.1	195.1	198.0	201.0	204.1
92.5°	161.3	170.2	179.2	185.0	187.9	190.8	193.6	196.4
95°	168.2	177.5	186.7	192.5	194.8	197.2	199.5	201.9
97.5°	172.3	181.1	189.9	195.7	198.5	201.2	204.1	206.9
100°	172.7	182.4	192.1	198.3	201.1	204.0	206.7	209.5
102.5°	169.7	179.7	189.7	196.3	199.3	202.3	205.2	208.2
105°	163.7	173.7	183.6	190.2	193.4	196.7	199.9	203.1
107.5°	169.8	174.5	179.2	183.1	186.4	189.6	192.8	196.1
110°	214.7	199.3	183.9	177.8	181.1	184.3	187.6	190.8



TEST NUMBER: P331369-830

CATALOG NUMBER: SA2XXDIP-C675D1080U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.4	284.0	209.6	173.9	177.0	180.0	183.1	186.2
115°	482.6	385.9	289.3	234.0	220.4	206.7	193.0	179.4
117.5°	697.4	678.7	660.2	625.6	575.1	524.6	474.1	423.6
120°	797.0	805.7	814.3	804.7	777.0	749.3	721.6	694.0
122.5°	837.2	844.6	852.1	853.8	850.0	846.1	842.4	838.5
125°	894.0	901.4	908.7	913.7	916.2	918.9	921.4	924.1
127.5°	946.1	953.7	961.3	966.0	968.1	970.1	972.1	974.1
130°	979.2	986.7	994.4	998.9	1000.3	1001.8	1003.3	1004.8
132.5°	1011.2	1018.2	1025.3	1029.5	1031.0	1032.6	1034.1	1035.5
135°	1057.1	1063.8	1070.4	1074.5	1075.7	1077.0	1078.3	1079.5
137.5°	1099.4	1105.5	1111.6	1115.0	1115.7	1116.3	1117.1	1117.8
140°	1127.0	1132.4	1137.8	1140.6	1140.8	1140.9	1141.1	1141.3
142.5°	1153.4	1157.9	1162.4	1164.8	1164.8	1164.8	1164.8	1164.8
145°	1191.0	1193.8	1196.7	1198.1	1198.1	1198.0	1198.0	1197.9
147.5°	1224.5	1225.8	1227.1	1227.6	1227.1	1226.7	1226.3	1225.9
150°	1246.1	1247.5	1248.8	1248.9	1247.7	1246.7	1245.6	1244.4
152.5°	1266.1	1267.5	1268.9	1268.8	1267.2	1265.8	1264.3	1262.9
155°	1293.2	1294.6	1295.9	1295.6	1293.8	1292.1	1290.3	1288.5
157.5°	1316.0	1317.5	1319.0	1318.9	1317.2	1315.4	1313.7	1311.9
160°	1329.3	1330.6	1331.9	1331.8	1330.3	1328.7	1327.2	1325.6
162.5°	1341.6	1343.1	1344.7	1344.4	1342.6	1340.7	1338.7	1336.8
165°	1356.8	1358.3	1359.9	1359.9	1358.3	1356.8	1355.2	1353.7
167.5°	1369.4	1370.9	1372.5	1372.2	1370.3	1368.3	1366.3	1364.2
170°	1375.8	1377.3	1378.9	1378.7	1376.7	1374.7	1372.7	1370.6
172.5°	1380.6	1382.1	1383.7	1383.6	1381.5	1379.5	1377.5	1375.5
175°	1385.8	1387.4	1388.9	1388.6	1386.4	1384.1	1382.0	1379.7
177.5°	1386.4	1387.6	1388.9	1388.7	1387.1	1385.5	1383.9	1382.3
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7

(END OF REPORT)