

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: P331405-840

Luminaire Tested: **SA2XXDIP-C865D925U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331405-840
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-C865D925U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

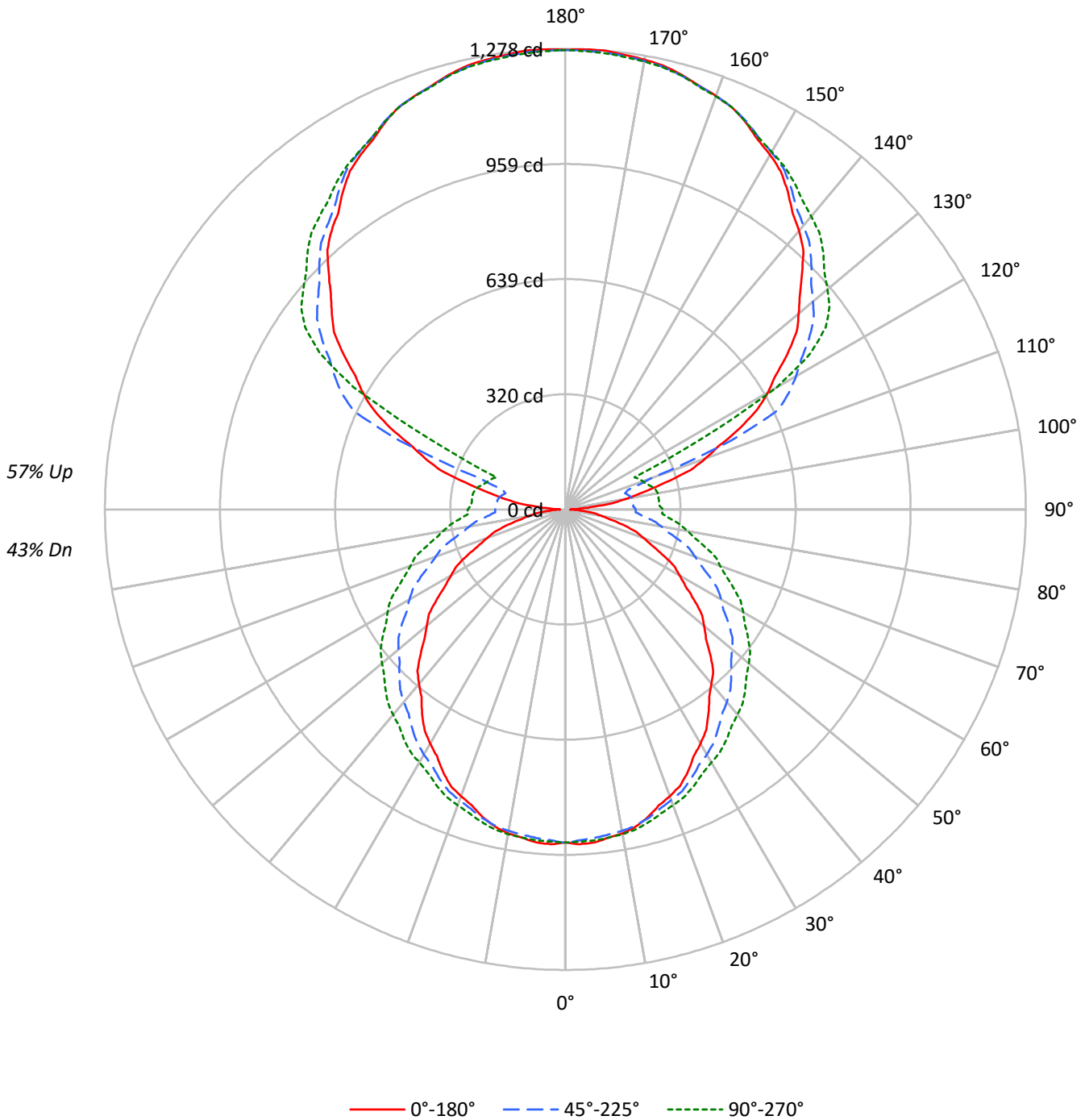
Lumens per Lamp: N/A
Luminaire Lumens: 7266.0 lumens
Efficiency: N/A
Efficacy: 120.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 60.5
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	106	106	106	106	96	96	96	96	80	80	80	64	64	64	50	50	50	43				
1	95	90	86	82	86	82	79	75	68	65	63	54	52	51	42	41	39	34				
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27				
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22				
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19				
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16				
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14				
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12				
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11				
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10				
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.2
10°-20°	251.2	3.5
20°-30°	380.7	5.2
30°-40°	463.7	6.4
40°-50°	498.9	6.9
50°-60°	484.5	6.7
60°-70°	423.0	5.8
70°-80°	325.7	4.5
80°-90°	221.7	3.1
90°-100°	193.1	2.7
100°-110°	265.9	3.7
110°-120°	489.4	6.7
120°-130°	728.5	10.0
130°-140°	748.7	10.3
140°-150°	683.0	9.4
150°-160°	546.8	7.5
160°-170°	352.3	4.8
170°-180°	121.3	1.7
0°-30°	719.6	9.9
0°-40°	1183.3	16.3
0°-60°	2166.6	29.8
0°-90°	3137.0	43.2
90°-120°	948.4	13.1
90°-150°	3108.6	42.8
90°-180°	4129.0	56.8
0°-180°	7266.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	102	195	251	272	12
95°	71	106	190	243	261	82
105°	287	340	172	226	247	307
115°	536	569	649	281	211	527
125°	753	767	825	866	882	671
135°	929	944	966	1001	1012	718
145°	1076	1076	1091	1105	1108	673
155°	1185	1178	1188	1193	1186	546
165°	1249	1244	1246	1252	1246	353
175°	1277	1271	1273	1278	1270	122
180°	1275	1275	1275	1275	1275	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.5	44.6	62.8	81.1	99.3	118.1	137.4	156.8	176.2	195.6	207.9
90°	14.3	33.8	53.4	72.9	92.4	112.5	133.2	153.9	174.6	195.3	208.2
92.5°	31.0	46.9	62.7	78.6	94.4	112.0	131.2	150.3	169.5	188.6	200.9
95°	70.7	77.9	85.1	92.4	99.6	112.9	132.2	151.5	170.8	190.1	202.4
97.5°	128.4	121.8	115.1	108.6	101.9	108.9	129.3	149.8	170.3	190.8	202.6
100°	172.6	155.5	138.6	121.5	104.4	105.9	126.1	146.2	166.4	186.6	199.2
102.5°	220.3	224.4	228.5	232.6	236.7	232.4	219.3	206.4	193.5	180.6	193.5
105°	287.1	301.8	316.7	331.4	346.2	333.4	292.9	252.5	212.0	171.5	184.2
107.5°	364.9	376.7	388.6	400.4	412.3	392.1	339.8	287.6	235.3	183.0	190.8
110°	413.9	424.2	434.4	444.7	454.9	437.8	393.1	348.5	303.9	259.2	248.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	461.2	470.0	478.8	487.6	496.4	500.5	499.7	499.0	498.2	497.5	432.2
115°	535.7	542.4	549.2	555.9	562.7	575.3	593.9	612.4	631.0	649.4	563.5
117.5°	601.0	606.9	613.0	619.0	625.1	636.1	652.0	667.9	683.8	699.7	685.6
120°	649.6	653.9	658.1	662.5	666.7	676.6	692.3	707.8	723.5	739.0	749.8
122.5°	690.9	694.7	698.4	702.1	705.8	715.3	730.5	745.7	760.9	776.1	785.7
125°	752.6	755.2	757.8	760.5	763.2	771.2	784.7	798.1	811.5	824.9	834.4
127.5°	809.5	812.1	814.9	817.5	820.1	826.8	837.4	848.0	858.5	869.1	878.6
130°	845.7	848.7	851.6	854.6	857.6	863.3	871.8	880.4	888.9	897.4	906.8
132.5°	882.5	885.0	887.6	890.0	892.5	897.3	904.3	911.5	918.6	925.6	934.4
135°	929.2	932.4	935.7	939.0	942.3	946.3	951.2	956.0	960.8	965.6	973.9
137.5°	977.7	980.0	982.2	984.4	986.6	989.5	992.9	996.2	999.7	1003.1	1010.6
140°	1009.5	1010.8	1012.1	1013.4	1014.8	1016.8	1019.8	1022.6	1025.4	1028.2	1034.9
142.5°	1036.0	1037.1	1038.3	1039.6	1040.7	1042.6	1045.3	1048.0	1050.8	1053.4	1058.9
145°	1076.3	1076.1	1075.9	1075.7	1075.5	1077.1	1080.7	1084.1	1087.6	1091.1	1094.3
147.5°	1112.7	1111.9	1111.2	1110.3	1109.5	1110.9	1114.3	1117.8	1121.3	1124.7	1126.0
150°	1136.3	1134.9	1133.4	1132.0	1130.5	1131.5	1134.8	1138.0	1141.3	1144.6	1145.8
152.5°	1156.2	1154.6	1153.0	1151.4	1149.8	1150.5	1153.7	1156.8	1159.9	1163.1	1164.3
155°	1185.2	1183.4	1181.4	1179.6	1177.8	1178.1	1180.5	1183.1	1185.5	1187.9	1189.1
157.5°	1207.8	1206.3	1204.8	1203.2	1201.6	1201.7	1203.5	1205.2	1206.9	1208.6	1210.0
160°	1221.1	1219.9	1218.7	1217.4	1216.2	1216.2	1217.4	1218.7	1219.9	1221.1	1222.3
162.5°	1232.9	1231.7	1230.5	1229.2	1228.0	1227.9	1229.0	1230.0	1231.1	1232.2	1233.6
165°	1248.8	1247.6	1246.4	1245.1	1243.9	1243.5	1244.2	1244.8	1245.5	1246.1	1247.5
167.5°	1260.6	1259.4	1258.2	1256.9	1255.7	1255.4	1256.0	1256.5	1257.1	1257.7	1259.1
170°	1267.3	1266.0	1264.8	1263.5	1262.3	1261.9	1262.3	1262.7	1263.1	1263.5	1265.0
172.5°	1271.6	1270.4	1269.2	1268.0	1266.8	1266.4	1266.8	1267.2	1267.6	1268.0	1269.4
175°	1277.4	1276.0	1274.6	1273.0	1271.6	1271.1	1271.5	1271.9	1272.3	1272.7	1274.2
177.5°	1278.3	1277.2	1276.1	1274.9	1273.7	1273.2	1273.4	1273.5	1273.7	1273.8	1275.1
180°	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	220.3	232.7	245.0	253.2	257.0	260.9	264.8	268.7
90°	221.2	234.2	247.1	255.5	259.5	263.5	267.5	271.5
92.5°	213.1	225.3	237.4	245.5	249.3	253.1	256.9	260.7
95°	214.8	227.1	239.4	247.3	250.6	254.0	257.4	260.7
97.5°	214.4	226.2	238.1	245.9	249.6	253.4	257.1	260.9
100°	211.9	224.6	237.2	245.4	249.0	252.8	256.4	260.1
102.5°	206.4	219.2	232.2	240.5	244.4	248.2	252.2	256.0
105°	196.8	209.5	222.2	230.6	234.7	238.8	242.9	247.0
107.5°	198.4	206.1	213.9	219.7	223.9	227.9	232.1	236.1
110°	237.3	226.3	215.4	212.0	216.0	220.2	224.2	228.3



TEST NUMBER: P331405-840

CATALOG NUMBER: SA2XXDIP-C865D925U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	367.0	301.7	236.5	205.8	209.7	213.7	217.6	221.6
115°	477.6	391.6	305.6	256.9	245.4	233.9	222.5	211.0
117.5°	671.5	657.3	643.2	613.4	567.9	522.4	477.0	431.5
120°	760.6	771.4	782.2	775.4	751.0	726.6	702.3	677.8
122.5°	795.3	804.9	814.5	817.9	815.4	812.8	810.2	807.7
125°	843.8	853.3	862.8	869.2	872.5	875.8	879.1	882.4
127.5°	888.1	897.6	907.1	913.1	915.8	918.6	921.4	924.1
130°	916.1	925.5	934.9	940.8	942.9	945.1	947.3	949.5
132.5°	943.3	952.1	961.0	966.4	968.7	970.8	973.0	975.1
135°	982.2	990.6	998.9	1004.0	1005.9	1007.9	1009.9	1011.9
137.5°	1018.0	1025.5	1033.0	1037.4	1038.7	1040.1	1041.4	1042.7
140°	1041.5	1048.1	1054.7	1058.4	1059.1	1060.0	1060.7	1061.5
142.5°	1064.4	1070.0	1075.4	1078.4	1078.9	1079.4	1079.9	1080.6
145°	1097.5	1100.8	1104.0	1105.8	1106.3	1106.7	1107.2	1107.6
147.5°	1127.3	1128.5	1129.8	1130.4	1130.3	1130.1	1130.0	1129.8
150°	1147.0	1148.3	1149.5	1149.6	1148.6	1147.5	1146.5	1145.5
152.5°	1165.5	1166.7	1167.9	1167.9	1166.5	1165.2	1163.9	1162.5
155°	1190.4	1191.6	1192.9	1192.7	1191.0	1189.3	1187.7	1186.1
157.5°	1211.3	1212.7	1214.2	1214.1	1212.4	1210.8	1209.2	1207.7
160°	1223.6	1224.9	1226.1	1226.0	1224.5	1223.0	1221.6	1220.2
162.5°	1235.0	1236.4	1237.8	1237.6	1235.9	1234.1	1232.3	1230.5
165°	1248.9	1250.3	1251.7	1251.7	1250.3	1248.9	1247.5	1246.1
167.5°	1260.5	1261.9	1263.4	1263.1	1261.3	1259.5	1257.7	1255.8
170°	1266.5	1267.9	1269.3	1269.1	1267.3	1265.4	1263.5	1261.7
172.5°	1270.8	1272.3	1273.7	1273.5	1271.6	1269.8	1268.0	1266.2
175°	1275.7	1277.1	1278.5	1278.2	1276.2	1274.1	1272.0	1270.0
177.5°	1276.2	1277.4	1278.5	1278.3	1276.9	1275.4	1273.8	1272.4
180°	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7

(END OF REPORT)