

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: P331406-840

Luminaire Tested: **SA2XXDIP-C865D925U840-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331406-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
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-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6871.6 lumens
Efficiency: N/A
Efficacy: 113.6 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

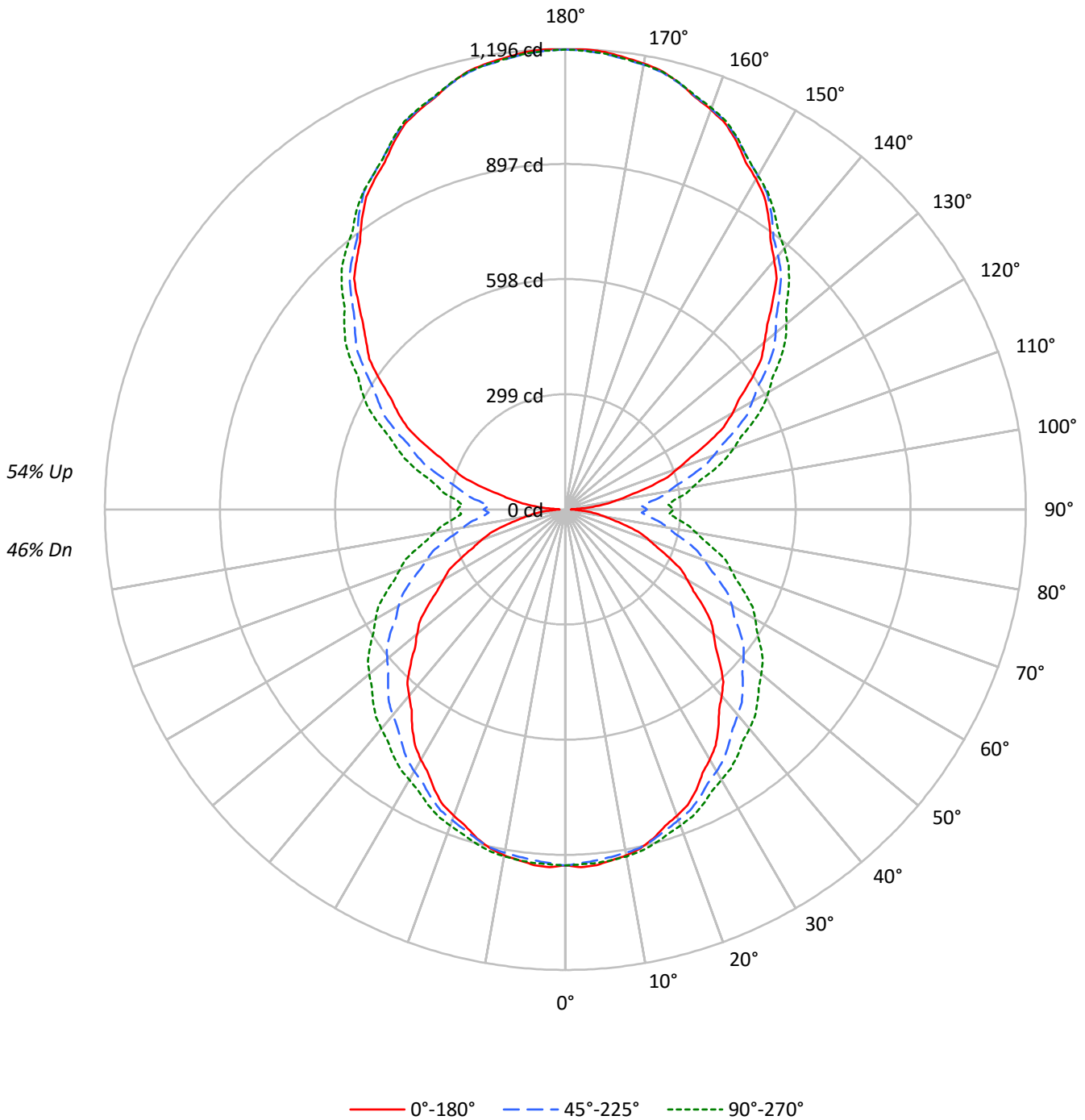
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	95	91	86	82	87	83	79	76	69	66	64	56	54	52	44	43	41	36
2	86	78	72	66	79	72	66	61	60	55	51	48	45	42	38	36	34	29
3	78	68	61	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	26	26	23	21	17
6	60	48	39	33	55	44	36	31	37	31	27	30	26	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	22	18	16	13
8	51	39	31	25	47	36	29	24	30	25	21	25	20	17	20	16	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	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	1.3
10°-20°	251.2	3.7
20°-30°	380.7	5.5
30°-40°	463.7	6.7
40°-50°	498.9	7.3
50°-60°	484.5	7.1
60°-70°	423.0	6.2
70°-80°	325.7	4.7
80°-90°	223.3	3.2
90°-100°	226.2	3.3
100°-110°	345.0	5.0
110°-120°	474.4	6.9
120°-130°	568.9	8.3
130°-140°	610.0	8.9
140°-150°	584.4	8.5
150°-160°	487.7	7.1
160°-170°	323.5	4.7
170°-180°	113.0	1.6
0°-30°	719.6	10.5
0°-40°	1183.3	17.2
0°-60°	2166.6	31.5
0°-90°	3138.7	45.7
90°-120°	1045.6	15.2
90°-150°	2808.8	40.9
90°-180°	3733.0	54.3
0°-180°	6871.6	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	105	212	262	281	12
95°	63	137	219	267	284	69
105°	223	267	337	384	401	236
115°	408	431	488	525	538	403
125°	589	600	638	670	682	527
135°	760	772	787	813	822	587
145°	921	928	934	943	946	576
155°	1053	1056	1059	1064	1061	485
165°	1146	1145	1145	1151	1147	323
175°	1192	1189	1187	1194	1188	113
180°	1194	1194	1194	1194	1194	



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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	44.7	63.0	81.3	99.6	118.8	138.9	158.9	178.9	198.9	211.0
90°	14.4	34.3	54.3	74.3	94.2	116.2	140.2	164.2	188.1	212.2	223.6
92.5°	30.3	48.3	66.3	84.4	102.5	121.3	140.8	160.3	179.8	199.2	211.1
95°	63.1	79.4	95.6	111.8	128.1	145.3	163.7	182.0	200.3	218.6	229.9
97.5°	105.1	119.6	133.9	148.3	162.8	179.0	197.0	215.0	233.0	251.1	262.1
100°	137.3	150.2	163.0	175.8	188.6	203.7	221.1	238.4	255.7	273.1	284.1
102.5°	170.2	181.7	193.2	204.7	216.1	230.5	247.5	264.5	281.6	298.6	309.6
105°	223.4	232.7	242.0	251.3	260.6	273.3	289.1	305.1	321.0	337.0	347.8
107.5°	278.3	286.2	294.2	302.1	309.9	321.2	336.1	350.9	365.8	380.6	390.8
110°	312.8	320.0	327.3	334.7	341.9	352.8	367.5	382.0	396.7	411.2	420.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.4	357.8	364.2	370.5	376.8	386.9	400.5	414.2	428.0	441.6	450.6
115°	408.5	413.1	417.7	422.3	427.0	435.8	448.7	461.6	474.6	487.6	496.2
117.5°	463.9	467.9	471.8	475.7	479.7	487.3	498.4	509.5	520.7	531.8	540.1
120°	501.9	504.8	507.9	510.8	513.8	520.4	530.5	540.6	550.7	560.9	569.2
122.5°	536.5	539.2	541.8	544.4	547.0	553.3	563.3	573.2	583.2	593.1	600.7
125°	589.3	591.3	593.3	595.2	597.2	602.7	611.6	620.5	629.2	638.1	645.5
127.5°	641.9	644.1	646.3	648.6	650.9	655.4	662.3	669.1	676.0	682.9	689.5
130°	674.9	677.5	680.1	682.8	685.3	689.5	695.4	701.1	707.0	712.8	719.4
132.5°	712.0	714.1	716.1	718.2	720.2	723.8	728.7	733.6	738.5	743.5	749.3
135°	760.2	762.7	765.2	767.6	770.0	773.1	776.5	779.8	783.3	786.7	792.7
137.5°	812.4	814.4	816.4	818.3	820.2	822.1	824.0	826.0	827.9	829.7	835.1
140°	843.8	845.6	847.3	849.0	850.7	852.4	854.1	855.9	857.6	859.3	864.0
142.5°	876.1	877.9	879.6	881.3	883.0	884.2	885.1	886.1	887.0	887.8	891.8
145°	921.1	922.7	924.2	925.8	927.4	928.9	930.2	931.5	932.9	934.2	936.2
147.5°	962.4	964.3	966.2	968.1	970.0	971.4	972.3	973.1	974.0	974.9	975.6
150°	990.7	992.0	993.3	994.7	996.0	997.1	998.0	999.0	999.9	1000.8	1001.4
152.5°	1015.6	1017.0	1018.3	1019.7	1021.1	1022.3	1023.3	1024.4	1025.4	1026.5	1027.4
155°	1053.2	1053.8	1054.5	1055.2	1055.8	1056.5	1057.2	1057.8	1058.5	1059.1	1060.4
157.5°	1085.2	1085.6	1086.1	1086.5	1087.0	1087.4	1087.8	1088.2	1088.6	1089.0	1090.6
160°	1104.6	1105.0	1105.4	1105.9	1106.3	1106.7	1106.9	1107.1	1107.3	1107.5	1108.9
162.5°	1122.3	1122.4	1122.5	1122.6	1122.7	1122.8	1123.1	1123.3	1123.5	1123.7	1125.2
165°	1145.9	1145.7	1145.4	1145.2	1145.0	1144.9	1144.9	1144.9	1144.9	1144.9	1146.4
167.5°	1165.6	1165.0	1164.3	1163.6	1163.0	1162.6	1162.6	1162.5	1162.5	1162.4	1164.0
170°	1176.1	1175.4	1174.8	1174.1	1173.4	1173.0	1172.8	1172.6	1172.3	1172.0	1173.7
172.5°	1183.4	1182.7	1182.0	1181.3	1180.6	1180.2	1180.0	1179.7	1179.5	1179.3	1180.9
175°	1192.2	1191.5	1190.8	1190.2	1189.5	1189.0	1188.5	1188.1	1187.6	1187.2	1188.7
177.5°	1195.9	1195.3	1194.8	1194.3	1193.7	1193.3	1192.9	1192.5	1192.1	1191.8	1192.9
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3



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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°	223.1	235.1	247.2	255.2	259.0	262.9	266.7	270.5
90°	235.1	246.5	258.0	265.6	269.4	273.3	277.0	280.8
92.5°	222.8	234.6	246.3	254.0	257.6	261.3	264.9	268.5
95°	241.3	252.6	263.9	271.0	274.2	277.3	280.4	283.6
97.5°	273.1	284.1	295.1	302.4	305.8	309.3	312.8	316.2
100°	295.1	306.1	317.2	324.2	327.2	330.3	333.4	336.4
102.5°	320.5	331.5	342.4	349.5	352.5	355.6	358.6	361.6
105°	358.7	369.6	380.4	387.5	390.8	394.0	397.4	400.6
107.5°	400.9	411.1	421.3	427.6	429.8	432.0	434.2	436.6
110°	430.3	439.8	449.4	455.4	458.1	460.6	463.2	465.9



TEST NUMBER: P331406-840

CATALOG NUMBER: SA2XXDIP-C865D925U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	459.6	468.6	477.6	483.5	486.3	489.1	491.8	494.6
115°	504.9	513.7	522.4	528.1	530.7	533.2	535.8	538.5
117.5°	548.4	556.6	564.9	570.3	572.6	574.9	577.3	579.7
120°	577.5	585.8	594.2	599.7	602.3	604.9	607.4	610.1
122.5°	608.2	615.8	623.4	628.2	630.6	632.9	635.2	637.5
125°	652.9	660.2	667.6	672.6	675.0	677.4	679.9	682.4
127.5°	696.1	702.7	709.2	713.5	715.4	717.3	719.2	721.0
130°	726.2	732.9	739.5	743.7	745.2	746.6	748.1	749.6
132.5°	755.3	761.2	767.1	770.9	772.5	774.3	775.9	777.6
135°	798.8	804.8	810.8	814.7	816.4	818.1	819.8	821.5
137.5°	840.3	845.7	850.9	854.1	855.3	856.4	857.6	858.7
140°	868.8	873.6	878.4	881.2	882.1	883.0	883.8	884.7
142.5°	895.8	899.8	903.7	906.1	906.8	907.4	908.1	908.7
145°	938.3	940.3	942.3	943.6	944.1	944.7	945.3	945.9
147.5°	976.4	977.1	977.9	978.2	978.1	977.9	977.8	977.7
150°	1002.1	1002.8	1003.4	1003.4	1002.8	1002.1	1001.4	1000.8
152.5°	1028.2	1029.1	1030.0	1030.0	1029.1	1028.2	1027.4	1026.5
155°	1061.5	1062.6	1063.7	1063.9	1063.2	1062.6	1061.9	1061.2
157.5°	1092.1	1093.6	1095.1	1095.3	1094.3	1093.2	1092.1	1091.1
160°	1110.2	1111.6	1113.0	1113.2	1112.3	1111.4	1110.4	1109.5
162.5°	1126.7	1128.2	1129.7	1130.0	1128.9	1127.8	1126.8	1125.7
165°	1148.0	1149.5	1151.1	1151.3	1150.2	1149.1	1148.0	1146.9
167.5°	1165.5	1167.1	1168.6	1168.8	1167.7	1166.5	1165.4	1164.2
170°	1175.2	1176.8	1178.3	1178.4	1177.1	1175.8	1174.4	1173.1
172.5°	1182.5	1184.1	1185.6	1185.7	1184.4	1183.1	1181.6	1180.3
175°	1190.3	1191.8	1193.5	1193.6	1192.2	1190.8	1189.5	1188.2
177.5°	1194.0	1195.1	1196.1	1196.1	1195.1	1194.0	1192.9	1191.8
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3

(END OF REPORT)