

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: P331415-935

Luminaire Tested: **S122DIP-S865D1080U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331415-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D1080U935-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

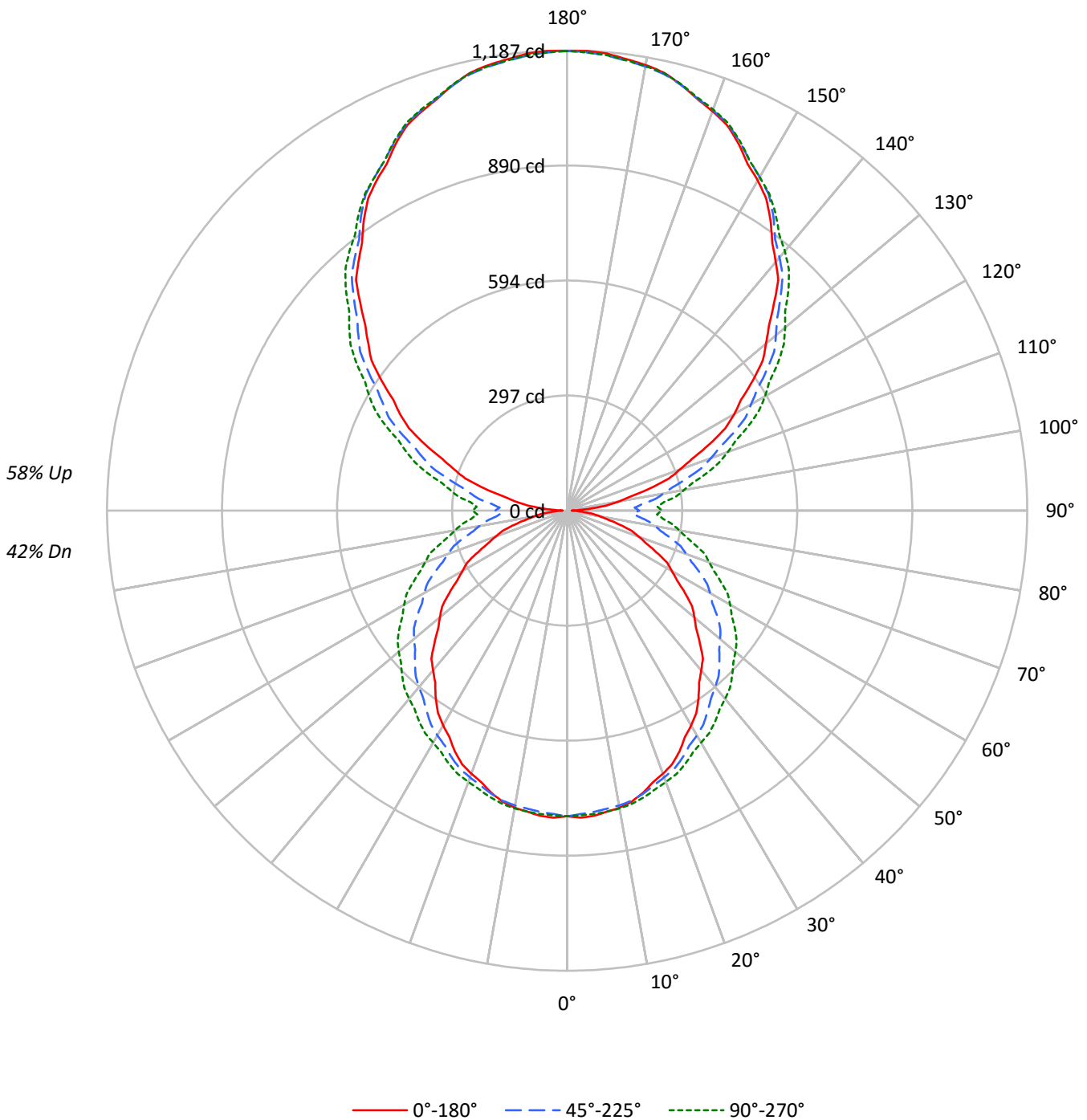
Lumens per Lamp: N/A  
Luminaire Lumens: 6326.1 lumens  
Efficiency: N/A  
Efficacy: 96.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39
2	86	78	71	66	78	71	65	60	58	54	50	46	43	41	36	34	32
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	26
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22
5	65	53	45	38	59	49	41	36	40	34	30	32	28	25	25	22	19
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15
8	51	39	31	25	46	35	28	24	29	24	20	24	20	17	19	16	13
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11

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

	0°	45°	90°
0°	12728	12728	12728
5°	12790	12252	12205
10°	12710	11890	11756
15°	12535	11506	11284
20°	12312	11097	10828
25°	12095	10701	10415
30°	11786	10293	10000
35°	11474	9900	9708
40°	11147	9566	9415
45°	10835	9267	9165
50°	10500	8995	8920
55°	10150	8703	8668
60°	9721	8403	8403
65°	9278	8047	8088
70°	8774	7666	7748
75°	8132	7293	7435
80°	7126	6912	7117
85°	6164	6582	6872



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.7	1.2
10°-20°	214.2	3.4
20°-30°	324.6	5.1
30°-40°	395.4	6.2
40°-50°	425.3	6.7
50°-60°	413.1	6.5
60°-70°	360.7	5.7
70°-80°	277.7	4.4
80°-90°	191.1	3.0
90°-100°	203.5	3.2
100°-110°	327.0	5.2
110°-120°	460.6	7.3
120°-130°	558.9	8.8
130°-140°	602.9	9.5
140°-150°	579.5	9.2
150°-160°	484.0	7.7
160°-170°	321.0	5.1
170°-180°	112.2	1.8
0°-30°	613.5	9.7
0°-40°	1008.9	15.9
0°-60°	1847.2	29.2
0°-90°	2676.6	42.3
90°-120°	991.1	15.7
90°-150°	2732.4	43.2
90°-180°	3649.0	57.7
0°-180°	6326.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	791	787	780	787	786	75
15°	754	756	756	766	766	212
25°	686	694	704	717	721	315
35°	591	610	632	656	665	369
45°	484	516	555	589	602	374
55°	371	413	472	512	528	332
65°	254	310	377	422	439	252
75°	140	205	278	325	342	149
85°	41	112	185	231	249	44
90°	12	92	186	228	244	10
95°	61	125	195	237	251	67
105°	221	258	318	359	373	234
115°	405	425	473	505	516	400
125°	584	595	627	654	664	522
135°	754	765	779	801	808	583
145°	914	921	927	935	937	571
155°	1045	1048	1051	1056	1053	481
165°	1137	1136	1136	1142	1138	321
175°	1183	1180	1178	1184	1179	112
180°	1185	1185	1185	1185	1185	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	792.9	792.3	791.7	791.1	790.5	789.5	788.0	786.6	785.1	783.8	784.8
5°	790.6	789.9	789.1	788.3	787.6	786.4	784.9	783.3	781.9	780.3	781.9
7.5°	783.5	783.0	782.5	782.0	781.5	780.7	779.5	778.3	777.1	776.0	777.8
10°	778.1	777.6	777.1	776.5	776.0	775.4	774.6	773.9	773.1	772.3	774.4
12.5°	768.9	769.0	769.1	769.2	769.3	769.0	768.5	767.9	767.4	766.8	768.9
15°	754.1	754.6	755.1	755.6	756.0	756.3	756.3	756.3	756.3	756.3	758.6
17.5°	734.9	735.9	737.0	738.0	739.1	740.0	740.9	741.7	742.5	743.3	745.7
20°	722.0	723.3	724.6	725.9	727.1	728.3	729.3	730.3	731.3	732.4	735.1
22.5°	708.3	709.8	711.3	712.7	714.2	715.7	717.1	718.5	720.0	721.3	724.2
25°	685.5	687.3	689.1	690.9	692.6	694.7	696.9	699.2	701.5	703.8	706.8
27.5°	658.1	661.0	663.8	666.8	669.7	672.4	675.1	677.9	680.5	683.2	687.1
30°	639.8	643.1	646.4	649.7	653.0	656.3	659.6	662.9	666.2	669.5	673.6
32.5°	619.7	623.4	627.1	630.9	634.6	638.3	642.2	646.2	650.1	653.9	658.7
35°	590.6	595.0	599.3	603.6	608.0	612.5	617.3	622.2	627.0	631.8	637.4
37.5°	559.1	564.1	569.1	574.0	579.0	584.6	590.9	597.2	603.4	609.7	615.9
40°	538.1	543.7	549.3	554.9	560.4	566.7	573.5	580.4	587.3	594.1	600.7
42.5°	518.0	523.6	529.2	534.8	540.4	547.1	554.9	562.8	570.7	578.6	585.7
45°	484.4	491.3	498.1	505.0	511.9	519.7	528.6	537.5	546.4	555.3	563.1
47.5°	451.3	458.7	466.2	473.7	481.1	490.1	500.5	510.9	521.3	531.8	539.9
50°	428.4	436.3	444.2	452.0	459.9	469.6	481.0	492.4	503.9	515.3	523.9
52.5°	406.5	414.7	423.1	431.4	439.6	449.8	461.8	473.8	485.9	497.9	506.7
55°	371.3	380.5	389.6	398.7	407.9	419.0	432.2	445.5	458.7	471.8	481.0
57.5°	336.6	346.9	357.2	367.5	377.8	389.7	403.1	416.6	430.1	443.5	453.4
60°	311.9	322.8	333.7	344.7	355.6	368.2	382.7	397.2	411.6	426.2	435.8
62.5°	290.0	301.3	312.6	323.9	335.3	348.2	362.7	377.1	391.6	406.0	416.3
65°	253.7	266.0	278.5	290.9	303.4	317.1	332.1	347.1	362.1	377.0	387.4
67.5°	220.2	233.2	246.2	259.2	272.2	286.5	301.8	317.1	332.4	347.8	358.3
70°	196.5	209.7	222.9	236.1	249.3	263.8	279.6	295.2	311.0	326.7	337.7
72.5°	174.6	188.2	201.8	215.4	229.0	243.7	259.8	275.7	291.6	307.5	318.3
75°	140.5	154.7	168.9	183.2	197.4	212.7	228.9	245.1	261.4	277.6	288.5
77.5°	107.6	122.5	137.4	152.2	167.1	182.8	199.3	215.9	232.3	248.8	259.7
80°	85.7	101.2	116.7	132.2	147.7	163.6	180.1	196.7	213.1	229.6	240.3
82.5°	67.4	82.7	98.0	113.2	128.5	144.6	161.3	178.0	194.7	211.4	222.1
85°	41.2	56.9	72.6	88.3	104.1	120.1	136.3	152.6	168.8	185.1	195.8
87.5°	22.6	38.2	53.9	69.6	85.2	101.7	118.9	136.1	153.3	170.6	180.9
90°	12.4	29.8	47.2	64.6	82.0	101.3	122.4	143.5	164.7	185.8	195.5
92.5°	28.3	44.0	59.7	75.3	91.0	107.2	124.0	140.8	157.6	174.4	184.4
95°	61.1	75.3	89.5	103.6	117.8	132.7	148.4	164.0	179.7	195.4	205.0
97.5°	103.0	115.5	128.1	140.7	153.3	167.3	182.8	198.2	213.7	229.2	238.6
100°	135.0	146.2	157.4	168.5	179.7	192.7	207.6	222.5	237.4	252.3	261.7
102.5°	167.7	177.7	187.7	197.7	207.8	220.1	234.7	249.3	264.0	278.7	288.0
105°	220.8	228.8	236.8	244.9	252.9	263.7	277.3	291.0	304.6	318.3	327.6
107.5°	275.3	282.1	289.0	295.9	302.8	312.5	325.2	337.9	350.5	363.1	371.9
110°	309.6	316.0	322.4	328.8	335.3	344.7	357.1	369.5	382.0	394.4	402.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	348.0	353.6	359.2	364.8	370.4	379.0	390.7	402.3	414.0	425.7	433.3
115°	404.6	408.7	412.8	417.0	421.1	428.7	439.6	450.6	461.6	472.6	480.0
117.5°	459.9	463.5	467.1	470.7	474.3	480.8	490.1	499.4	508.7	518.1	525.0
120°	497.5	500.2	503.1	505.8	508.7	514.3	522.6	531.0	539.4	547.8	554.8
122.5°	531.9	534.4	537.0	539.5	542.1	547.5	555.8	564.0	572.4	580.7	587.0
125°	584.4	586.3	588.3	590.4	592.4	597.1	604.5	612.0	619.5	626.9	633.1
127.5°	636.5	638.9	641.1	643.4	645.7	649.7	655.5	661.2	666.9	672.7	678.2
130°	669.3	672.0	674.7	677.3	679.9	683.6	688.5	693.4	698.4	703.2	708.9
132.5°	706.2	708.3	710.4	712.5	714.5	717.7	721.9	726.2	730.3	734.5	739.4
135°	754.2	756.6	759.1	761.6	764.1	766.7	769.7	772.7	775.7	778.7	783.8
137.5°	806.1	808.0	809.9	811.9	813.8	815.6	817.3	819.1	820.7	822.4	826.9
140°	837.2	839.0	840.8	842.5	844.2	845.9	847.6	849.1	850.8	852.4	856.4
142.5°	869.3	871.0	872.7	874.5	876.2	877.5	878.4	879.3	880.1	881.0	884.4
145°	914.1	915.7	917.2	918.8	920.3	921.8	923.1	924.5	925.7	927.1	928.8
147.5°	955.1	957.0	958.8	960.7	962.6	964.0	964.8	965.8	966.6	967.5	968.2
150°	983.1	984.5	985.8	987.1	988.4	989.5	990.5	991.4	992.2	993.2	993.8
152.5°	1007.9	1009.3	1010.6	1011.9	1013.2	1014.4	1015.5	1016.6	1017.7	1018.7	1019.6
155°	1045.2	1045.8	1046.5	1047.1	1047.8	1048.4	1049.1	1049.8	1050.5	1051.1	1052.2
157.5°	1076.9	1077.4	1077.8	1078.2	1078.7	1079.1	1079.5	1080.0	1080.3	1080.7	1082.3
160°	1096.1	1096.6	1097.0	1097.4	1097.9	1098.2	1098.5	1098.7	1098.9	1099.2	1100.4
162.5°	1113.7	1113.8	1113.9	1114.0	1114.1	1114.2	1114.5	1114.7	1114.9	1115.2	1116.6
165°	1137.1	1137.0	1136.7	1136.4	1136.3	1136.2	1136.2	1136.2	1136.2	1136.2	1137.7
167.5°	1156.8	1156.1	1155.4	1154.8	1154.1	1153.7	1153.7	1153.7	1153.6	1153.6	1155.1
170°	1167.2	1166.5	1165.8	1165.1	1164.5	1164.1	1163.8	1163.6	1163.4	1163.1	1164.7
172.5°	1174.3	1173.7	1173.0	1172.3	1171.6	1171.2	1171.0	1170.8	1170.5	1170.4	1171.9
175°	1183.2	1182.5	1181.8	1181.1	1180.5	1179.9	1179.5	1179.1	1178.6	1178.1	1179.7
177.5°	1186.7	1186.2	1185.7	1185.2	1184.6	1184.1	1183.8	1183.4	1183.1	1182.8	1183.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	785.7	786.8	787.8	788.2	787.7	787.3	786.9	786.5
5°	783.3	784.9	786.4	787.0	786.8	786.5	786.3	786.0
7.5°	779.6	781.4	783.3	784.1	783.9	783.6	783.3	783.1
10°	776.4	778.4	780.5	781.4	781.1	780.8	780.6	780.3
12.5°	770.9	772.9	775.0	775.8	775.6	775.3	775.1	774.8
15°	760.9	763.2	765.5	766.5	766.2	765.9	765.7	765.5
17.5°	748.1	750.4	752.9	754.1	754.1	754.1	754.1	754.1
20°	738.0	740.7	743.5	744.9	744.9	744.9	744.9	744.9
22.5°	726.9	729.8	732.5	734.2	734.5	734.9	735.4	735.8
25°	709.9	712.9	716.0	717.9	718.6	719.4	720.1	720.9
27.5°	691.0	694.8	698.6	700.9	701.5	702.0	702.6	703.1
30°	677.6	681.7	685.8	688.2	688.9	689.7	690.4	691.2
32.5°	663.3	668.0	672.6	675.7	677.0	678.4	679.8	681.1
35°	643.0	648.6	654.2	657.8	659.6	661.4	663.1	665.0
37.5°	622.0	628.2	634.4	638.4	640.3	642.2	644.1	646.0
40°	607.3	613.9	620.5	624.9	627.2	629.5	631.8	634.1
42.5°	593.0	600.2	607.4	612.2	614.4	616.7	619.0	621.3
45°	571.0	578.9	586.8	591.9	594.5	597.0	599.6	602.1
47.5°	548.2	556.4	564.6	570.2	572.9	575.8	578.5	581.3
50°	532.5	541.1	549.8	555.5	558.3	561.1	563.9	566.7
52.5°	515.6	524.4	533.2	539.2	542.2	545.2	548.1	551.1
55°	490.2	499.3	508.4	514.6	517.9	521.2	524.5	527.8
57.5°	463.2	473.0	482.9	489.6	492.8	496.2	499.6	502.9
60°	445.5	455.1	464.8	471.3	474.9	478.5	482.0	485.6
62.5°	426.5	436.8	447.0	453.9	457.2	460.5	463.9	467.3
65°	397.9	408.3	418.7	425.5	428.8	432.1	435.4	438.7
67.5°	368.8	379.3	389.9	396.8	400.3	403.7	407.2	410.6
70°	348.6	359.5	370.4	377.4	380.5	383.5	386.6	389.6
72.5°	329.0	339.7	350.4	357.6	361.3	364.9	368.6	372.2
75°	299.5	310.4	321.3	328.4	331.7	335.0	338.3	341.6
77.5°	270.6	281.5	292.3	299.5	303.1	306.6	310.2	313.7
80°	251.0	261.7	272.3	279.4	282.9	286.5	290.1	293.6
82.5°	232.7	243.3	254.0	261.1	264.4	267.7	271.0	274.4
85°	206.4	217.1	227.7	234.9	238.4	241.9	245.5	249.1
87.5°	191.1	201.4	211.7	218.4	221.8	225.1	228.3	231.6
90°	205.3	214.9	224.6	231.2	234.5	237.7	241.0	244.3
92.5°	194.5	204.5	214.6	221.1	224.2	227.3	230.4	233.5
95°	214.7	224.4	234.0	240.1	242.7	245.3	247.9	250.6
97.5°	248.0	257.4	266.7	272.9	275.9	278.8	281.8	284.7
100°	271.0	280.4	289.8	295.8	298.4	301.0	303.5	306.1
102.5°	297.4	306.8	316.2	322.1	324.7	327.3	329.8	332.4
105°	336.9	346.3	355.6	361.7	364.5	367.2	370.1	372.8
107.5°	380.6	389.3	398.0	403.2	404.9	406.7	408.5	410.3
110°	410.7	418.8	427.0	432.0	434.2	436.4	438.4	440.6





TEST NUMBER: P331415-935

CATALOG NUMBER: S122DIP-S865D1080U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	440.8	448.4	456.0	461.0	463.3	465.5	467.9	470.2
115°	487.4	494.8	502.1	507.0	509.0	511.2	513.3	515.5
117.5°	532.0	539.0	546.0	550.4	552.3	554.2	556.2	558.1
120°	562.0	569.1	576.2	580.8	582.9	585.0	587.2	589.4
122.5°	593.4	599.8	606.1	610.3	612.2	614.1	616.0	617.9
125°	639.3	645.5	651.7	655.8	657.9	660.0	662.0	664.1
127.5°	683.7	689.1	694.7	698.2	699.7	701.2	702.7	704.3
130°	714.5	720.1	725.8	729.2	730.4	731.5	732.6	733.7
132.5°	744.3	749.2	754.1	757.3	758.6	759.9	761.3	762.6
135°	788.8	794.0	799.1	802.4	803.7	805.0	806.4	807.8
137.5°	831.5	835.9	840.4	843.1	844.0	844.7	845.6	846.4
140°	860.5	864.6	868.7	871.0	871.6	872.3	872.9	873.5
142.5°	887.9	891.2	894.7	896.6	897.1	897.5	897.9	898.4
145°	930.6	932.4	934.1	935.1	935.6	935.9	936.3	936.7
147.5°	968.9	969.6	970.3	970.5	970.3	970.1	969.8	969.6
150°	994.5	995.1	995.8	995.8	995.1	994.5	993.8	993.2
152.5°	1020.5	1021.2	1022.1	1022.1	1021.2	1020.5	1019.6	1018.7
155°	1053.3	1054.5	1055.6	1055.8	1055.2	1054.5	1053.8	1053.1
157.5°	1083.7	1085.3	1086.8	1087.0	1085.9	1084.9	1083.8	1082.7
160°	1101.8	1103.1	1104.5	1104.7	1103.8	1102.9	1102.0	1101.1
162.5°	1118.2	1119.6	1121.2	1121.4	1120.3	1119.3	1118.2	1117.1
165°	1139.3	1140.8	1142.4	1142.5	1141.5	1140.4	1139.3	1138.2
167.5°	1156.7	1158.2	1159.8	1159.9	1158.8	1157.6	1156.5	1155.4
170°	1166.2	1167.8	1169.3	1169.5	1168.1	1166.8	1165.4	1164.2
172.5°	1173.5	1175.0	1176.6	1176.6	1175.4	1174.0	1172.7	1171.3
175°	1181.3	1182.8	1184.4	1184.5	1183.2	1181.8	1180.5	1179.1
177.5°	1184.9	1185.9	1187.0	1187.0	1185.9	1184.9	1183.8	1182.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2

(END OF REPORT)