

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: P331569-935

Luminaire Tested: **S122DIW-S865D970U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331569-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D970U935-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6342.3 lumens
Efficiency: N/A
Efficacy: 103.6 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

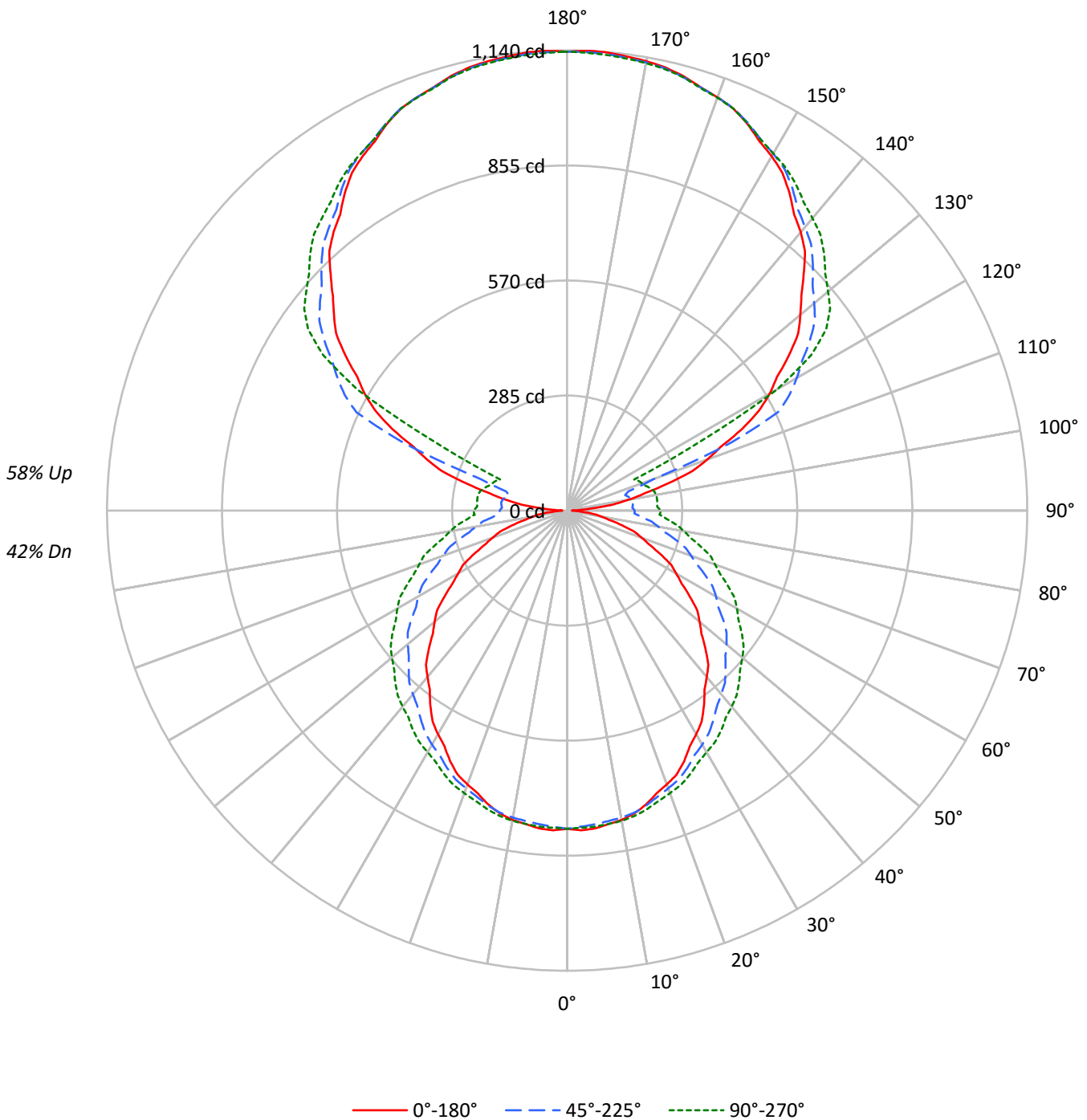
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331569-935

CATALOG NUMBER: S122DIW-S865D970U935-4F0-1E-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	50	30	10	50	30	10	0		
RCR																										
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42								
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39	33								
2	86	78	71	66	78	71	65	60	58	54	50	46	43	41	36	33	32	27								
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	26	22								
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22	18								
5	65	53	45	38	59	49	41	36	40	34	30	32	28	25	25	22	19	16								
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17	14								
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12								
8	51	39	31	25	46	35	28	24	29	24	20	24	20	17	19	15	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°	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°	189.1	3.0
90°-100°	166.3	2.6
100°-110°	232.8	3.7
110°-120°	433.7	6.8
120°-130°	648.3	10.2
130°-140°	667.2	10.5
140°-150°	609.1	9.6
150°-160°	487.7	7.7
160°-170°	314.3	5.0
170°-180°	108.2	1.7
0°-30°	613.5	9.7
0°-40°	1008.9	15.9
0°-60°	1847.2	29.1
0°-90°	2674.7	42.2
90°-120°	832.8	13.1
90°-150°	2757.4	43.5
90°-180°	3668.0	57.8
0°-180°	6342.3	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	88	167	215	232	10
95°	63	92	164	209	224	73
105°	256	301	148	196	213	274
115°	478	507	576	246	183	470
125°	671	684	734	769	783	599
135°	829	842	861	892	900	640
145°	960	960	973	985	988	601
155°	1057	1051	1060	1064	1058	487
165°	1114	1109	1112	1117	1112	315
175°	1139	1134	1135	1140	1133	108
180°	1137	1137	1137	1137	1137	



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CATALOG NUMBER: S122DIW-S865D970U935-4F0-1E-UDD-D

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	38.1	53.6	69.1	84.7	100.7	117.3	133.8	150.3	166.9	177.5
90°	12.2	29.0	45.7	62.4	79.2	96.4	114.2	131.8	149.6	167.3	178.3
92.5°	27.1	40.6	54.2	67.7	81.3	96.2	112.5	128.9	145.3	161.7	172.1
95°	62.6	68.5	74.4	80.3	86.2	97.4	113.9	130.4	147.0	163.5	174.0
97.5°	114.2	107.7	101.3	95.0	88.6	94.2	111.8	129.3	146.9	164.5	174.6
100°	153.6	137.9	122.3	106.7	91.0	91.9	109.2	126.5	143.8	161.2	172.0
102.5°	196.1	199.4	202.7	206.0	209.2	204.8	192.6	180.5	168.2	156.1	167.1
105°	255.8	268.6	281.5	294.4	307.2	295.2	258.6	221.9	185.1	148.4	159.4
107.5°	325.2	335.5	345.8	356.1	366.4	348.0	300.7	253.6	206.4	159.1	165.7
110°	369.0	378.0	386.8	395.8	404.7	389.0	348.5	308.2	267.8	227.4	217.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	411.1	418.8	426.5	434.1	441.8	445.1	443.8	442.6	441.3	440.1	381.6
115°	477.6	483.5	489.4	495.3	501.3	512.2	528.1	544.2	560.2	576.2	499.1
117.5°	535.9	541.2	546.5	551.8	557.1	566.6	580.3	594.0	607.7	621.4	608.5
120°	579.4	583.1	586.9	590.6	594.3	603.0	616.4	629.8	643.3	656.8	666.1
122.5°	616.2	619.5	622.8	626.0	629.4	637.6	650.7	663.8	677.0	690.1	698.4
125°	671.1	673.6	675.9	678.3	680.6	687.7	699.2	710.8	722.5	734.0	742.2
127.5°	722.0	724.4	726.8	729.1	731.5	737.3	746.4	755.5	764.7	773.9	782.0
130°	754.2	756.9	759.6	762.2	764.9	769.9	777.3	784.6	791.9	799.3	807.4
132.5°	787.1	789.4	791.6	793.8	796.1	800.3	806.4	812.5	818.6	824.8	832.3
135°	828.8	831.7	834.7	837.6	840.5	844.0	848.3	852.4	856.6	860.7	868.0
137.5°	872.1	874.1	876.1	878.0	880.0	882.5	885.5	888.5	891.5	894.5	901.0
140°	900.3	901.6	902.8	904.0	905.2	907.1	909.6	912.1	914.6	917.1	922.8
142.5°	924.0	925.1	926.2	927.2	928.3	930.1	932.5	934.9	937.3	939.7	944.4
145°	960.1	959.9	959.8	959.6	959.4	960.9	964.0	967.1	970.2	973.3	976.0
147.5°	992.6	991.8	991.1	990.4	989.7	990.9	994.0	997.0	1000.1	1003.2	1004.4
150°	1013.6	1012.3	1011.0	1009.8	1008.5	1009.3	1012.2	1015.1	1018.0	1021.0	1022.1
152.5°	1031.4	1029.9	1028.5	1027.1	1025.6	1026.3	1029.1	1031.9	1034.7	1037.4	1038.5
155°	1057.2	1055.5	1053.9	1052.2	1050.6	1050.9	1053.1	1055.2	1057.5	1059.6	1060.8
157.5°	1077.5	1076.1	1074.6	1073.2	1071.9	1071.9	1073.5	1075.0	1076.5	1078.1	1079.3
160°	1089.3	1088.2	1087.1	1086.0	1084.9	1084.9	1086.0	1087.1	1088.2	1089.3	1090.4
162.5°	1099.8	1098.7	1097.6	1096.5	1095.5	1095.4	1096.3	1097.3	1098.2	1099.2	1100.4
165°	1114.0	1112.8	1111.7	1110.7	1109.6	1109.3	1109.8	1110.3	1110.9	1111.5	1112.8
167.5°	1124.5	1123.3	1122.3	1121.2	1120.1	1119.8	1120.3	1120.8	1121.4	1121.9	1123.1
170°	1130.4	1129.3	1128.3	1127.1	1126.0	1125.7	1126.0	1126.4	1126.8	1127.1	1128.4
172.5°	1134.4	1133.2	1132.1	1131.1	1130.0	1129.6	1130.0	1130.3	1130.7	1131.1	1132.4
175°	1139.4	1138.2	1136.9	1135.7	1134.4	1133.9	1134.3	1134.6	1135.0	1135.3	1136.6
177.5°	1140.3	1139.3	1138.2	1137.2	1136.2	1135.7	1135.9	1136.0	1136.2	1136.3	1137.4
180°	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0



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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°	188.0	198.5	209.1	216.0	219.3	222.7	225.9	229.3
90°	189.4	200.4	211.5	218.8	222.2	225.6	229.0	232.5
92.5°	182.5	193.0	203.4	210.3	213.5	216.8	220.0	223.3
95°	184.6	195.2	205.7	212.4	215.3	218.2	221.0	223.9
97.5°	184.8	194.8	205.0	211.7	214.9	218.1	221.4	224.5
100°	182.9	193.7	204.6	211.5	214.7	217.9	221.0	224.2
102.5°	178.2	189.3	200.4	207.6	210.9	214.2	217.6	220.8
105°	170.2	181.2	192.0	199.2	202.8	206.3	209.8	213.4
107.5°	172.1	178.6	185.1	190.1	193.6	197.2	200.6	204.1
110°	207.1	196.9	186.8	183.4	186.9	190.5	194.0	197.5



TEST NUMBER: P331569-935

CATALOG NUMBER: S122DIW-S865D970U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	323.0	264.4	205.9	178.3	181.7	185.0	188.4	191.7
115°	422.1	345.1	268.0	224.4	214.0	203.6	193.2	182.9
117.5°	595.5	582.6	569.6	542.8	502.1	461.4	420.8	380.1
120°	675.4	684.7	694.0	687.7	665.8	643.9	622.0	600.1
122.5°	706.5	714.8	723.0	725.9	723.5	721.1	718.7	716.3
125°	750.3	758.5	766.5	772.1	774.9	777.7	780.6	783.4
127.5°	790.1	798.3	806.5	811.8	814.1	816.5	818.8	821.1
130°	815.5	823.6	831.7	836.7	838.5	840.4	842.2	844.1
132.5°	840.0	847.6	855.2	859.9	861.8	863.6	865.5	867.3
135°	875.1	882.3	889.4	893.8	895.5	897.2	898.8	900.5
137.5°	907.4	913.9	920.3	924.1	925.2	926.3	927.4	928.5
140°	928.6	934.3	940.0	943.1	943.7	944.3	944.9	945.6
142.5°	949.2	953.9	958.6	961.2	961.7	962.1	962.4	962.9
145°	978.9	981.7	984.5	986.1	986.4	986.8	987.1	987.5
147.5°	1005.6	1006.7	1007.8	1008.3	1008.1	1008.0	1007.9	1007.7
150°	1023.2	1024.2	1025.4	1025.5	1024.6	1023.6	1022.7	1021.8
152.5°	1039.7	1040.7	1041.8	1041.8	1040.6	1039.4	1038.2	1037.0
155°	1061.9	1062.9	1064.0	1063.9	1062.4	1060.9	1059.5	1058.0
157.5°	1080.6	1081.8	1083.1	1083.0	1081.5	1080.1	1078.7	1077.3
160°	1091.5	1092.5	1093.6	1093.6	1092.3	1091.0	1089.8	1088.5
162.5°	1101.6	1102.9	1104.1	1104.0	1102.3	1100.8	1099.2	1097.7
165°	1114.0	1115.3	1116.6	1116.6	1115.3	1114.0	1112.8	1111.5
167.5°	1124.4	1125.7	1127.0	1126.8	1125.2	1123.5	1121.9	1120.2
170°	1129.7	1130.9	1132.2	1132.0	1130.4	1128.8	1127.1	1125.5
172.5°	1133.6	1134.9	1136.2	1136.0	1134.4	1132.7	1131.1	1129.5
175°	1137.9	1139.2	1140.5	1140.2	1138.3	1136.5	1134.7	1132.9
177.5°	1138.4	1139.4	1140.4	1140.3	1138.9	1137.6	1136.3	1135.1
180°	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0

(END OF REPORT)