

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: P331569-927

Luminaire Tested: **S122DIW-S865D970U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331569-927  
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-S865D970U927-4F0-1E-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: 5835.4 lumens  
Efficiency: N/A  
Efficacy: 95.3 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

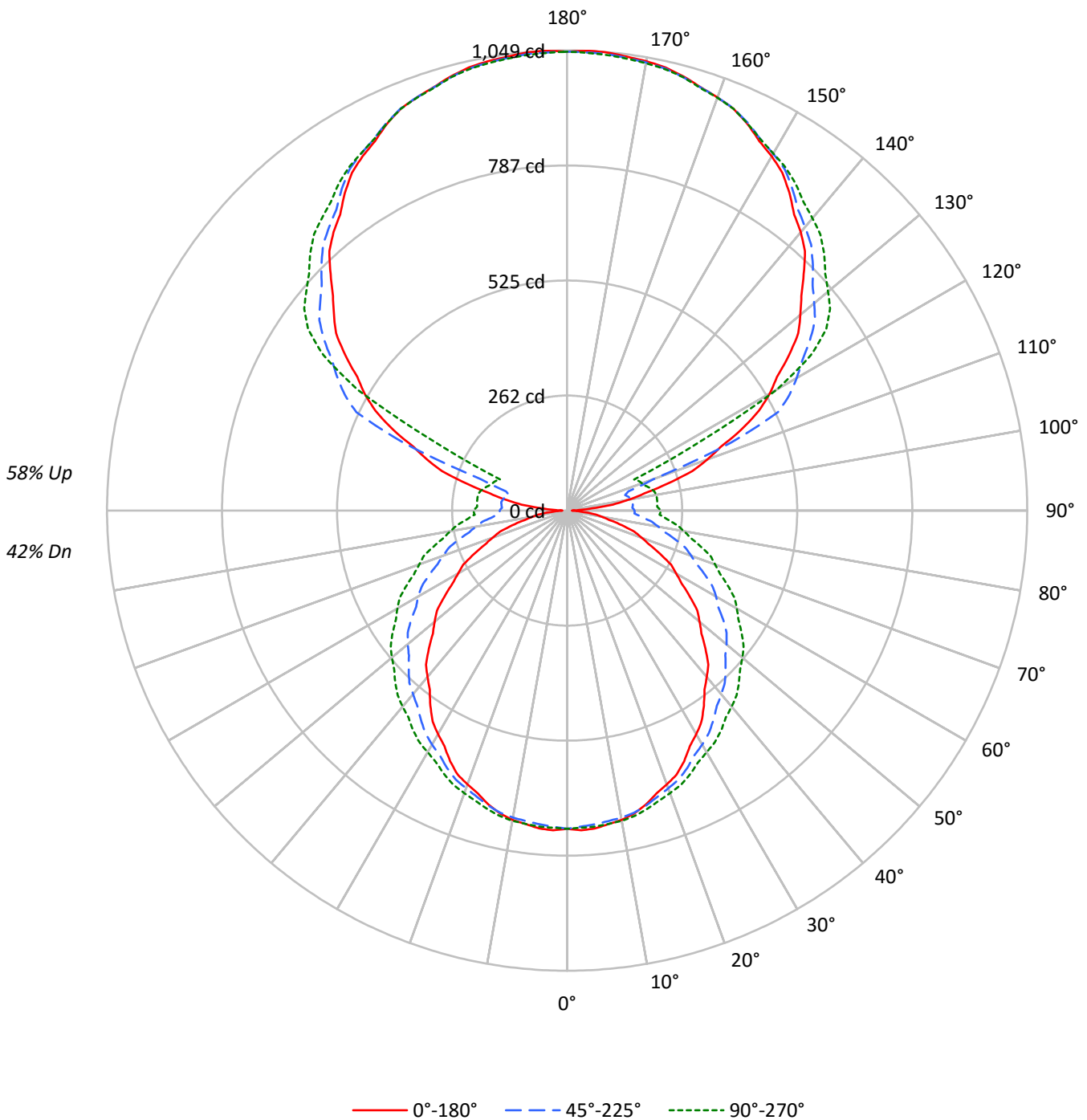
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331569-927

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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	33	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	15	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°	11711	11711	11711
5°	11768	11274	11230
10°	11694	10940	10818
15°	11533	10587	10382
20°	11328	10209	9963
25°	11128	9845	9582
30°	10845	9471	9201
35°	10557	9109	8932
40°	10256	8801	8662
45°	9969	8526	8433
50°	9662	8276	8207
55°	9341	8008	7975
60°	8945	7730	7732
65°	8536	7405	7441
70°	8073	7053	7130
75°	7484	6710	6841
80°	6553	6361	6548
85°	5671	6056	6323



TEST NUMBER: P331569-927

CATALOG NUMBER: S122DIW-S865D970U927-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	1.2
10°-20°	197.1	3.4
20°-30°	298.7	5.1
30°-40°	363.8	6.2
40°-50°	391.3	6.7
50°-60°	380.0	6.5
60°-70°	331.8	5.7
70°-80°	255.5	4.4
80°-90°	174.0	3.0
90°-100°	153.0	2.6
100°-110°	214.2	3.7
110°-120°	399.0	6.8
120°-130°	596.4	10.2
130°-140°	613.8	10.5
140°-150°	560.5	9.6
150°-160°	448.7	7.7
160°-170°	289.2	5.0
170°-180°	99.5	1.7
0°-30°	564.5	9.7
0°-40°	928.2	15.9
0°-60°	1699.6	29.1
0°-90°	2460.9	42.2
90°-120°	766.3	13.1
90°-150°	2537.0	43.5
90°-180°	3374.0	57.8
0°-180°	5835.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	727	724	718	724	723	69
15°	694	696	696	705	704	195
25°	631	638	648	660	663	290
35°	543	562	581	604	612	340
45°	446	475	511	542	554	344
55°	342	380	434	471	486	305
65°	233	286	347	388	404	232
75°	129	189	255	299	314	137
85°	38	103	170	213	229	41
90°	11	81	154	198	214	9
95°	58	84	150	192	206	67
105°	235	277	137	180	196	252
115°	439	466	530	226	168	432
125°	618	629	675	708	721	551
135°	763	775	792	820	828	589
145°	883	883	896	907	909	553
155°	973	967	975	979	973	448
165°	1025	1021	1023	1027	1023	289
175°	1048	1043	1045	1049	1042	100
180°	1046	1046	1046	1046	1046	



TEST NUMBER: P331569-927

CATALOG NUMBER: S122DIW-S865D970U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	729.5	729.0	728.4	727.9	727.3	726.4	725.0	723.7	722.4	721.1	722.1
5°	727.4	726.7	726.0	725.3	724.6	723.6	722.2	720.7	719.4	718.0	719.4
7.5°	720.9	720.4	719.9	719.5	719.1	718.3	717.2	716.1	715.0	714.0	715.7
10°	715.9	715.4	714.9	714.5	714.0	713.4	712.7	712.0	711.3	710.6	712.5
12.5°	707.4	707.6	707.7	707.7	707.8	707.6	707.1	706.5	706.1	705.5	707.4
15°	693.8	694.3	694.7	695.2	695.6	695.9	695.9	695.9	695.9	695.9	698.0
17.5°	676.1	677.1	678.1	679.1	680.0	680.9	681.7	682.4	683.2	683.9	686.1
20°	664.3	665.5	666.7	667.9	669.0	670.1	671.0	671.9	672.9	673.8	676.4
22.5°	651.7	653.1	654.4	655.8	657.1	658.5	659.8	661.1	662.4	663.7	666.3
25°	630.7	632.3	634.0	635.6	637.2	639.1	641.2	643.3	645.4	647.5	650.3
27.5°	605.5	608.2	610.8	613.5	616.2	618.7	621.2	623.7	626.1	628.6	632.2
30°	588.7	591.7	594.8	597.8	600.8	603.9	606.9	609.9	613.0	616.0	619.7
32.5°	570.1	573.5	576.9	580.4	583.8	587.3	590.9	594.5	598.1	601.7	606.0
35°	543.4	547.4	551.4	555.4	559.4	563.6	568.0	572.4	576.9	581.3	586.5
37.5°	514.4	519.0	523.6	528.1	532.7	537.9	543.7	549.5	555.2	560.9	566.6
40°	495.1	500.3	505.4	510.6	515.6	521.4	527.7	534.0	540.3	546.6	552.7
42.5°	476.6	481.7	486.9	492.0	497.2	503.4	510.6	517.8	525.1	532.3	538.9
45°	445.7	452.0	458.3	464.6	471.0	478.2	486.3	494.6	502.7	510.9	518.1
47.5°	415.2	422.1	429.0	435.9	442.7	450.9	460.5	470.1	479.7	489.3	496.8
50°	394.2	401.4	408.7	415.9	423.2	432.1	442.5	453.0	463.6	474.1	482.0
52.5°	374.0	381.6	389.3	396.9	404.5	413.8	424.9	435.9	447.0	458.1	466.2
55°	341.7	350.1	358.5	366.9	375.3	385.6	397.7	409.9	422.0	434.1	442.5
57.5°	309.7	319.2	328.7	338.1	347.6	358.5	370.9	383.3	395.7	408.1	417.2
60°	287.0	297.0	307.0	317.1	327.2	338.8	352.1	365.4	378.7	392.1	401.0
62.5°	266.8	277.2	287.6	298.0	308.5	320.4	333.7	347.0	360.3	373.6	383.0
65°	233.4	244.8	256.3	267.7	279.2	291.8	305.5	319.3	333.1	346.9	356.5
67.5°	202.6	214.6	226.6	238.5	250.5	263.6	277.7	291.8	305.9	320.0	329.6
70°	180.8	193.0	205.1	217.2	229.4	242.7	257.2	271.6	286.1	300.6	310.7
72.5°	160.7	173.2	185.7	198.2	210.7	224.3	239.0	253.7	268.3	283.0	292.9
75°	129.3	142.4	155.4	168.6	181.6	195.7	210.6	225.5	240.5	255.4	265.5
77.5°	99.0	112.7	126.4	140.1	153.8	168.2	183.4	198.6	213.7	228.9	238.9
80°	78.8	93.1	107.3	121.6	135.9	150.5	165.7	180.9	196.1	211.3	221.1
82.5°	62.0	76.0	90.2	104.2	118.3	133.0	148.4	163.7	179.1	194.5	204.3
85°	37.9	52.4	66.8	81.3	95.8	110.5	125.4	140.4	155.3	170.3	180.1
87.5°	20.8	35.0	49.4	63.6	78.0	92.7	107.9	123.1	138.3	153.5	163.3
90°	11.2	26.7	42.1	57.4	72.9	88.7	105.0	121.3	137.6	153.9	164.1
92.5°	25.0	37.4	49.8	62.3	74.8	88.5	103.5	118.6	133.7	148.8	158.4
95°	57.6	63.1	68.4	73.9	79.3	89.6	104.8	120.0	135.2	150.4	160.1
97.5°	105.0	99.1	93.2	87.4	81.5	86.7	102.8	119.0	135.1	151.4	160.7
100°	141.3	126.9	112.6	98.2	83.7	84.5	100.4	116.4	132.3	148.3	158.3
102.5°	180.5	183.5	186.5	189.5	192.5	188.5	177.2	166.0	154.8	143.6	153.8
105°	235.4	247.2	259.0	270.8	282.7	271.6	237.9	204.1	170.3	136.6	146.6
107.5°	299.2	308.7	318.1	327.6	337.2	320.2	276.7	233.3	189.9	146.4	152.4
110°	339.5	347.8	355.9	364.2	372.3	357.9	320.7	283.5	246.4	209.2	199.9



TEST NUMBER: P331569-927

CATALOG NUMBER: S122DIW-S865D970U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	378.3	385.3	392.4	399.4	406.5	409.5	408.4	407.2	406.1	405.0	351.1
115°	439.4	444.9	450.3	455.7	461.2	471.3	485.9	500.7	515.4	530.1	459.2
117.5°	493.1	498.0	502.8	507.7	512.5	521.3	533.9	546.5	559.1	571.7	559.8
120°	533.1	536.5	540.0	543.4	546.8	554.8	567.1	579.5	591.9	604.3	612.8
122.5°	567.0	570.0	573.0	576.0	579.1	586.6	598.7	610.8	622.9	634.9	642.5
125°	617.5	619.7	621.9	624.1	626.2	632.7	643.3	654.0	664.7	675.3	682.9
127.5°	664.3	666.5	668.7	670.8	673.0	678.3	686.7	695.1	703.6	712.0	719.5
130°	694.0	696.4	698.9	701.3	703.8	708.4	715.2	721.9	728.6	735.4	742.9
132.5°	724.2	726.3	728.3	730.4	732.5	736.3	742.0	747.6	753.2	758.8	765.8
135°	762.6	765.2	767.9	770.6	773.3	776.6	780.5	784.3	788.1	791.9	798.6
137.5°	802.4	804.2	806.0	807.9	809.7	812.0	814.8	817.5	820.2	823.0	828.9
140°	828.4	829.5	830.6	831.7	832.8	834.6	836.9	839.2	841.5	843.8	849.1
142.5°	850.2	851.2	852.2	853.1	854.1	855.7	857.9	860.2	862.4	864.6	868.9
145°	883.4	883.2	883.0	882.9	882.7	884.1	886.9	889.8	892.6	895.5	898.0
147.5°	913.2	912.5	911.9	911.2	910.6	911.7	914.6	917.3	920.2	923.1	924.1
150°	932.6	931.4	930.2	929.1	927.9	928.6	931.3	934.0	936.7	939.4	940.4
152.5°	949.0	947.6	946.3	945.0	943.6	944.3	946.8	949.4	952.0	954.5	955.5
155°	972.7	971.1	969.6	968.1	966.6	966.9	968.9	970.9	973.0	974.9	976.0
157.5°	991.3	990.1	988.7	987.5	986.2	986.3	987.7	989.1	990.5	991.9	993.1
160°	1002.2	1001.2	1000.2	999.2	998.1	998.1	999.2	1000.2	1001.2	1002.2	1003.2
162.5°	1011.9	1010.9	1009.9	1008.8	1007.9	1007.8	1008.7	1009.6	1010.4	1011.3	1012.4
165°	1024.9	1023.9	1022.9	1021.9	1020.9	1020.6	1021.1	1021.6	1022.2	1022.6	1023.8
167.5°	1034.6	1033.6	1032.6	1031.6	1030.5	1030.3	1030.8	1031.3	1031.7	1032.2	1033.3
170°	1040.1	1039.0	1038.1	1037.0	1036.0	1035.7	1036.0	1036.3	1036.7	1037.0	1038.2
172.5°	1043.7	1042.7	1041.6	1040.7	1039.7	1039.3	1039.7	1040.0	1040.3	1040.7	1041.9
175°	1048.4	1047.2	1046.0	1044.9	1043.7	1043.2	1043.6	1043.9	1044.3	1044.6	1045.8
177.5°	1049.2	1048.2	1047.3	1046.3	1045.4	1045.0	1045.1	1045.2	1045.4	1045.5	1046.5
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1



TEST NUMBER: P331569-927

CATALOG NUMBER: S122DIW-S865D970U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	722.9	723.9	724.8	725.2	724.8	724.4	724.0	723.7
5°	720.7	722.2	723.6	724.1	723.9	723.7	723.4	723.2
7.5°	717.3	719.0	720.7	721.4	721.2	721.0	720.7	720.5
10°	714.3	716.2	718.1	718.9	718.7	718.4	718.2	718.0
12.5°	709.3	711.1	713.0	713.8	713.6	713.4	713.1	712.9
15°	700.1	702.2	704.3	705.2	705.0	704.7	704.5	704.3
17.5°	688.3	690.5	692.7	693.8	693.8	693.8	693.8	693.8
20°	679.0	681.5	684.0	685.4	685.4	685.4	685.4	685.4
22.5°	668.8	671.5	674.0	675.5	675.8	676.2	676.6	677.0
25°	653.2	655.9	658.8	660.5	661.2	661.9	662.6	663.3
27.5°	635.7	639.3	642.8	644.8	645.4	645.9	646.4	646.9
30°	623.4	627.2	631.0	633.2	633.8	634.5	635.3	636.0
32.5°	610.3	614.6	618.9	621.7	622.9	624.2	625.4	626.7
35°	591.6	596.8	601.9	605.2	606.9	608.6	610.1	611.8
37.5°	572.3	578.0	583.7	587.4	589.1	590.9	592.6	594.4
40°	558.7	564.8	570.9	575.0	577.1	579.2	581.3	583.4
42.5°	545.6	552.2	558.9	563.2	565.3	567.4	569.5	571.6
45°	525.4	532.6	539.9	544.6	547.0	549.3	551.7	554.0
47.5°	504.4	511.9	519.5	524.6	527.1	529.7	532.3	534.9
50°	490.0	497.9	505.9	511.1	513.7	516.3	518.8	521.4
52.5°	474.4	482.5	490.6	496.1	498.8	501.6	504.3	507.1
55°	451.0	459.4	467.8	473.5	476.5	479.6	482.6	485.6
57.5°	426.2	435.2	444.3	450.4	453.4	456.5	459.6	462.7
60°	409.9	418.7	427.6	433.6	437.0	440.2	443.5	446.8
62.5°	392.4	401.9	411.3	417.6	420.6	423.7	426.8	429.9
65°	366.1	375.7	385.2	391.5	394.5	397.6	400.6	403.6
67.5°	339.3	349.0	358.7	365.1	368.3	371.5	374.6	377.8
70°	320.8	330.7	340.8	347.2	350.1	352.8	355.7	358.5
72.5°	302.7	312.5	322.4	329.0	332.4	335.7	339.1	342.5
75°	275.5	285.6	295.6	302.1	305.2	308.2	311.2	314.3
77.5°	249.0	259.0	268.9	275.6	278.8	282.1	285.4	288.7
80°	230.9	240.7	250.6	257.1	260.3	263.6	266.9	270.1
82.5°	214.1	223.9	233.7	240.2	243.3	246.3	249.4	252.5
85°	189.9	199.7	209.5	216.1	219.4	222.6	225.9	229.2
87.5°	172.9	182.7	192.3	198.8	201.8	204.9	207.9	211.0
90°	174.3	184.4	194.6	201.3	204.5	207.6	210.7	213.9
92.5°	167.9	177.5	187.1	193.5	196.5	199.5	202.4	205.4
95°	169.8	179.6	189.3	195.4	198.1	200.7	203.4	206.0
97.5°	170.0	179.3	188.6	194.8	197.7	200.7	203.7	206.6
100°	168.3	178.2	188.2	194.6	197.6	200.5	203.4	206.3
102.5°	164.0	174.2	184.4	191.0	194.1	197.1	200.2	203.2
105°	156.6	166.7	176.7	183.3	186.6	189.8	193.1	196.3
107.5°	158.4	164.3	170.3	174.9	178.2	181.4	184.6	187.8
110°	190.5	181.2	171.8	168.7	172.0	175.2	178.5	181.7





TEST NUMBER: P331569-927

CATALOG NUMBER: S122DIW-S865D970U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	297.2	243.3	189.4	164.1	167.2	170.2	173.3	176.4
115°	388.3	317.5	246.6	206.4	196.9	187.4	177.8	168.3
117.5°	547.9	536.0	524.0	499.4	462.0	424.5	387.1	349.7
120°	621.4	629.9	638.5	632.7	612.6	592.4	572.3	552.2
122.5°	650.1	657.7	665.2	667.9	665.7	663.5	661.2	659.0
125°	690.3	697.8	705.3	710.3	713.0	715.6	718.2	720.8
127.5°	727.0	734.5	742.0	746.9	749.0	751.2	753.4	755.5
130°	750.4	757.8	765.2	769.8	771.5	773.2	774.9	776.7
132.5°	772.9	779.8	786.9	791.2	792.9	794.6	796.3	798.0
135°	805.2	811.7	818.3	822.4	823.9	825.5	827.0	828.5
137.5°	834.9	840.8	846.8	850.2	851.3	852.3	853.3	854.3
140°	854.4	859.6	864.8	867.8	868.3	868.9	869.4	870.0
142.5°	873.3	877.7	882.0	884.4	884.8	885.2	885.5	885.9
145°	900.6	903.2	905.8	907.3	907.6	907.9	908.2	908.6
147.5°	925.2	926.2	927.2	927.7	927.6	927.4	927.3	927.2
150°	941.4	942.4	943.4	943.5	942.7	941.8	941.0	940.2
152.5°	956.6	957.5	958.5	958.5	957.4	956.3	955.2	954.1
155°	977.0	977.9	979.0	978.8	977.5	976.1	974.8	973.4
157.5°	994.2	995.4	996.5	996.4	995.1	993.8	992.4	991.2
160°	1004.2	1005.2	1006.2	1006.2	1005.0	1003.8	1002.7	1001.5
162.5°	1013.6	1014.7	1015.9	1015.7	1014.2	1012.8	1011.4	1010.0
165°	1025.0	1026.2	1027.4	1027.4	1026.2	1025.0	1023.8	1022.6
167.5°	1034.5	1035.7	1036.9	1036.7	1035.2	1033.7	1032.2	1030.7
170°	1039.4	1040.5	1041.7	1041.6	1040.1	1038.6	1037.0	1035.5
172.5°	1043.0	1044.2	1045.4	1045.2	1043.7	1042.2	1040.7	1039.2
175°	1046.9	1048.1	1049.3	1049.1	1047.3	1045.7	1044.0	1042.4
177.5°	1047.4	1048.3	1049.2	1049.2	1047.9	1046.7	1045.5	1044.3
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1

(END OF REPORT)