

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: P332165-935

Luminaire Tested: **S123DIW-S775D1030U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332165-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S775D1030U935-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

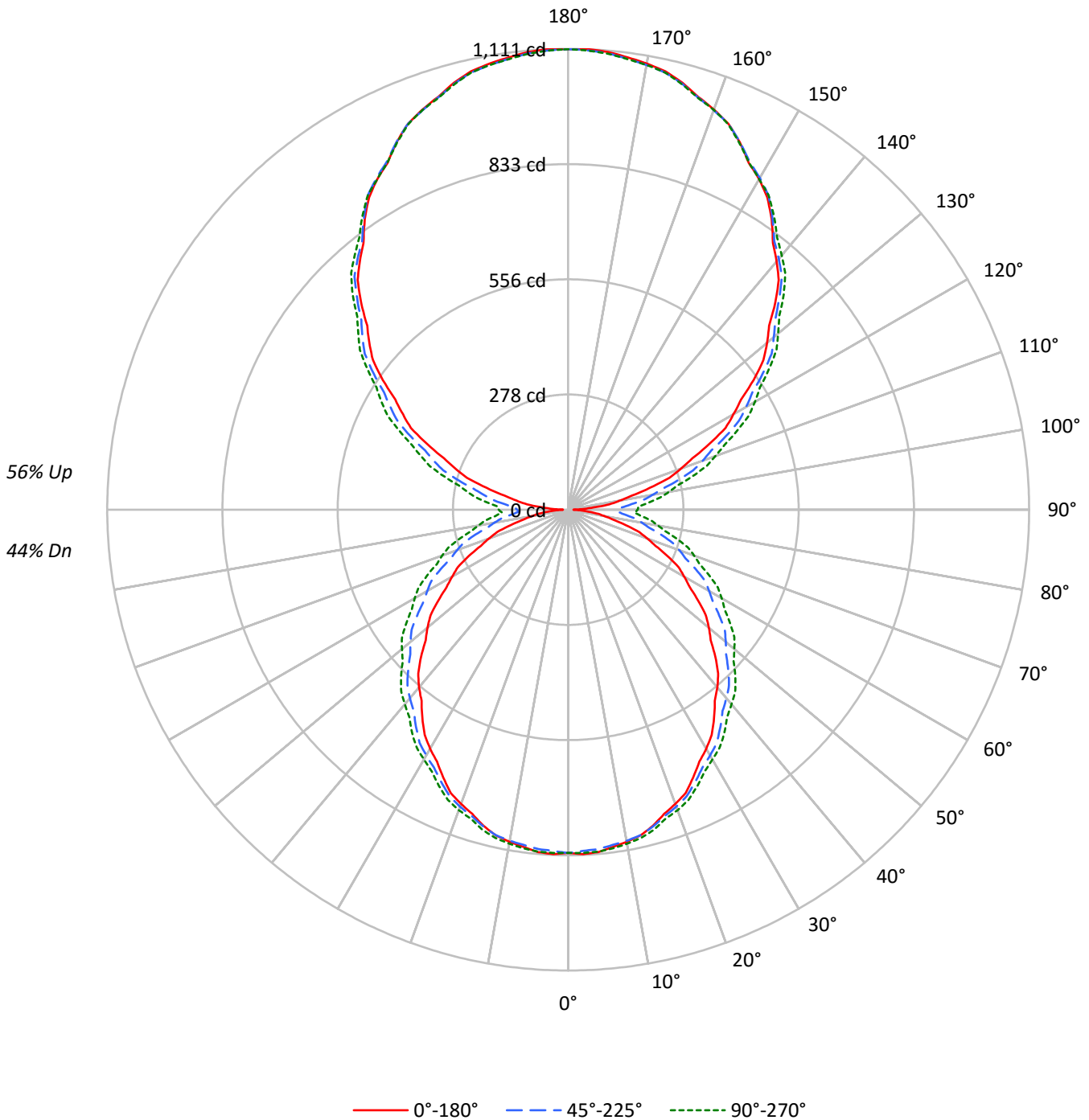
Lumens per Lamp: N/A  
Luminaire Lumens: 5861.0 lumens  
Efficiency: N/A  
Efficacy: 111.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 52.6  
Input Voltage (V): 120  
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	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	80	80	80	64	64	64	50	50	50	44
1	95	91	87	83	87	83	79	76	68	66	63	55	53	52	43	42	40	35
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	1.3
10°-20°	223.7	3.8
20°-30°	334.5	5.7
30°-40°	399.5	6.8
40°-50°	418.0	7.1
50°-60°	392.2	6.7
60°-70°	327.6	5.6
70°-80°	234.4	4.0
80°-90°	143.1	2.4
90°-100°	160.0	2.7
100°-110°	281.0	4.8
110°-120°	411.3	7.0
120°-130°	509.0	8.7
130°-140°	555.5	9.5
140°-150°	537.5	9.2
150°-160°	450.6	7.7
160°-170°	299.9	5.1
170°-180°	105.0	1.8
0°-30°	636.6	10.9
0°-40°	1036.1	17.7
0°-60°	1846.2	31.5
0°-90°	2551.2	43.5
90°-120°	852.3	14.5
90°-150°	2454.3	41.9
90°-180°	3310.0	56.5
0°-180°	5861.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	13	66	123	156	168	11
95°	61	103	154	184	194	66
105°	204	228	274	298	309	217
115°	375	390	419	441	448	371
125°	545	549	572	587	591	486
135°	706	710	719	731	735	544
145°	855	856	858	864	865	534
155°	978	978	979	982	976	450
165°	1065	1063	1062	1067	1062	300
175°	1108	1104	1104	1109	1104	105
180°	1110	1110	1110	1110	1110	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.2	34.5	44.9	55.3	65.6	76.2	86.9	97.6	108.3	119.1	126.1
90°	12.6	24.4	36.1	47.9	59.6	71.9	84.6	97.3	110.0	122.8	130.4
92.5°	32.1	42.3	52.4	62.6	72.8	83.6	95.1	106.6	118.1	129.6	136.9
95°	61.4	70.5	79.7	88.9	98.1	108.3	119.7	131.0	142.4	153.8	160.7
97.5°	100.2	108.3	116.4	124.4	132.5	141.8	152.3	162.7	173.2	183.7	190.6
100°	126.7	134.3	141.9	149.5	157.0	165.9	176.1	186.3	196.5	206.6	213.0
102.5°	157.4	163.9	170.4	176.8	183.3	191.7	202.0	212.4	222.7	233.1	239.3
105°	203.5	208.7	213.9	219.0	224.3	232.0	242.4	252.8	263.1	273.5	279.1
107.5°	256.1	260.5	264.8	269.1	273.4	280.0	288.9	297.7	306.6	315.5	321.5
110°	288.9	292.9	296.9	300.9	304.9	311.1	319.5	327.9	336.3	344.7	350.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	323.8	327.0	330.2	333.4	336.6	342.1	349.8	357.6	365.4	373.2	379.1
115°	375.2	378.2	381.2	384.2	387.2	392.1	398.9	405.7	412.6	419.4	424.4
117.5°	427.7	429.6	431.4	433.3	435.2	439.3	445.6	451.9	458.1	464.3	469.1
120°	459.8	462.0	464.2	466.3	468.5	472.3	478.0	483.6	489.3	494.9	499.4
122.5°	494.0	495.4	496.8	498.1	499.5	503.1	508.9	514.6	520.5	526.2	530.2
125°	545.3	545.9	546.4	547.0	547.6	550.6	556.0	561.5	566.9	572.3	575.8
127.5°	593.4	594.4	595.5	596.5	597.6	600.3	604.7	609.1	613.5	617.9	620.7
130°	625.5	626.9	628.2	629.6	630.9	633.4	636.7	640.2	643.6	647.0	650.1
132.5°	656.9	658.4	660.0	661.4	663.0	665.1	667.9	670.6	673.4	676.2	678.9
135°	705.8	706.7	707.7	708.6	709.6	711.1	713.1	715.1	717.1	719.1	721.9
137.5°	751.0	751.7	752.5	753.4	754.1	755.4	757.2	758.9	760.7	762.4	764.7
140°	781.6	782.6	783.5	784.5	785.5	786.4	787.1	788.0	788.8	789.5	792.4
142.5°	810.2	811.1	811.8	812.6	813.5	814.1	814.6	815.0	815.5	816.0	818.5
145°	854.9	855.1	855.2	855.4	855.7	856.0	856.6	857.2	857.7	858.3	859.7
147.5°	893.0	893.7	894.4	895.2	895.9	896.5	897.0	897.6	898.1	898.6	899.1
150°	920.2	920.7	921.0	921.4	921.8	922.2	922.6	923.0	923.3	923.8	923.8
152.5°	942.6	943.1	943.7	944.3	944.8	945.1	945.4	945.6	945.9	946.1	946.4
155°	977.8	977.8	977.8	977.8	977.8	977.9	978.1	978.4	978.5	978.7	979.5
157.5°	1007.9	1007.6	1007.4	1007.1	1006.9	1006.9	1007.0	1007.2	1007.4	1007.5	1008.3
160°	1026.7	1026.3	1025.9	1025.5	1025.1	1024.9	1024.9	1024.9	1024.9	1024.9	1025.9
162.5°	1043.4	1042.9	1042.3	1041.8	1041.3	1041.0	1041.2	1041.4	1041.6	1041.7	1042.7
165°	1065.1	1064.5	1063.9	1063.3	1062.7	1062.5	1062.5	1062.5	1062.5	1062.5	1063.6
167.5°	1082.4	1081.6	1080.8	1080.0	1079.3	1078.9	1079.1	1079.3	1079.4	1079.5	1080.7
170°	1092.1	1091.3	1090.5	1089.8	1089.0	1088.6	1088.6	1088.6	1088.6	1088.6	1089.9
172.5°	1099.8	1099.0	1098.2	1097.4	1096.7	1096.3	1096.3	1096.3	1096.3	1096.3	1097.5
175°	1107.8	1107.1	1106.3	1105.5	1104.7	1104.3	1104.3	1104.3	1104.3	1104.3	1105.5
177.5°	1111.1	1110.5	1109.9	1109.2	1108.6	1108.4	1108.4	1108.4	1108.4	1108.4	1109.2
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	132.9	139.9	146.9	151.4	153.5	155.6	157.6	159.7
90°	138.0	145.6	153.2	158.2	160.6	162.9	165.3	167.7
92.5°	144.1	151.4	158.7	163.2	164.7	166.3	168.0	169.5
95°	167.8	174.8	181.8	186.2	188.2	190.3	192.3	194.2
97.5°	197.5	204.3	211.2	215.6	217.6	219.5	221.4	223.3
100°	219.5	225.8	232.2	236.6	239.0	241.4	243.7	246.2
102.5°	245.5	251.8	258.0	262.0	264.0	265.9	267.9	269.8
105°	284.7	290.3	295.9	299.8	302.0	304.2	306.3	308.6
107.5°	327.4	333.5	339.4	343.2	344.7	346.3	347.8	349.3
110°	356.6	362.7	368.6	372.2	373.4	374.6	375.8	377.1





TEST NUMBER: P332165-935

CATALOG NUMBER: S123DIW-S775D1030U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	385.1	391.1	397.1	400.9	402.6	404.2	406.0	407.7
115°	429.4	434.4	439.4	442.6	444.0	445.4	446.9	448.2
117.5°	473.8	478.5	483.3	486.1	487.2	488.2	489.2	490.3
120°	503.8	508.2	512.6	515.3	516.3	517.4	518.3	519.4
122.5°	534.1	538.0	542.0	544.4	545.3	546.1	547.0	547.9
125°	579.1	582.6	586.0	588.1	588.7	589.3	590.0	590.6
127.5°	623.6	626.5	629.3	631.0	631.5	632.0	632.4	632.9
130°	653.1	656.1	659.1	660.6	660.4	660.3	660.1	660.0
132.5°	681.7	684.3	687.1	688.5	688.9	689.2	689.5	689.8
135°	724.8	727.6	730.5	732.2	732.8	733.4	734.0	734.6
137.5°	767.2	769.5	771.8	773.1	773.4	773.7	774.0	774.2
140°	795.1	798.0	800.8	802.0	801.7	801.3	801.0	800.6
142.5°	821.0	823.5	826.0	827.2	827.1	827.1	827.0	827.0
145°	861.2	862.5	864.0	864.7	864.7	864.7	864.8	864.8
147.5°	899.6	900.1	900.5	900.6	900.2	899.7	899.2	898.8
150°	923.8	923.8	923.8	923.3	922.6	921.9	921.1	920.3
152.5°	946.7	947.0	947.4	947.0	946.1	945.2	944.3	943.3
155°	980.2	981.0	981.8	981.5	980.2	978.8	977.5	976.1
157.5°	1009.1	1010.0	1010.7	1010.6	1009.5	1008.5	1007.4	1006.3
160°	1026.9	1027.9	1028.8	1028.9	1028.1	1027.3	1026.6	1025.8
162.5°	1043.6	1044.6	1045.6	1045.4	1044.2	1042.9	1041.7	1040.4
165°	1064.8	1065.9	1067.1	1067.0	1065.7	1064.3	1062.9	1061.6
167.5°	1081.9	1083.1	1084.3	1084.3	1083.1	1081.9	1080.7	1079.5
170°	1091.3	1092.7	1094.1	1094.1	1092.7	1091.3	1089.9	1088.6
172.5°	1098.7	1099.9	1101.1	1101.0	1099.7	1098.3	1096.9	1095.6
175°	1106.6	1107.8	1109.0	1108.9	1107.5	1106.1	1104.8	1103.5
177.5°	1110.2	1111.1	1112.1	1112.0	1110.9	1109.8	1108.7	1107.7
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4

(END OF REPORT)