

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: P331606-930

Luminaire Tested: **S122DIW-S1005D1240U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331606-930  
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: S122DIW-S1005D1240U930-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6796.9 lumens  
Efficiency: N/A  
Efficacy: 89.2 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

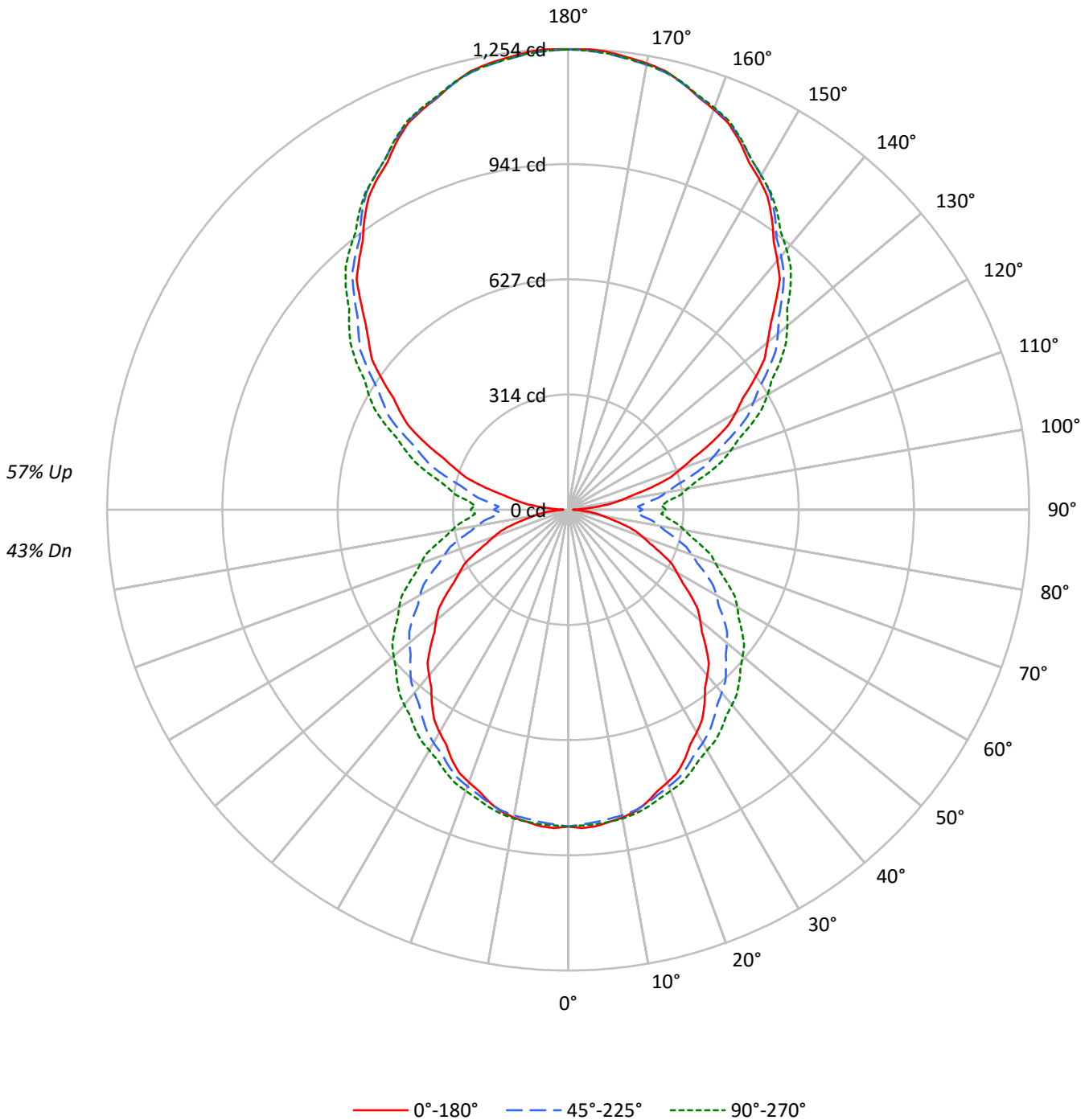
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43
1	95	90	86	82	86	82	79	75	68	65	62	54	52	51	42	41	39	34
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	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°	13919	13919	13919
5°	13988	13400	13350
10°	13899	13004	12858
15°	13709	12584	12339
20°	13467	12136	11842
25°	13227	11701	11390
30°	12890	11257	10936
35°	12550	10828	10617
40°	12191	10461	10297
45°	11850	10133	10022
50°	11485	9837	9754
55°	11101	9519	9479
60°	10631	9187	9189
65°	10145	8801	8846
70°	9596	8384	8474
75°	8897	7976	8132
80°	7792	7559	7784
85°	6733	7197	7515



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.7	1.2
10°-20°	234.3	3.4
20°-30°	355.0	5.2
30°-40°	432.4	6.4
40°-50°	465.2	6.8
50°-60°	451.7	6.6
60°-70°	394.4	5.8
70°-80°	303.7	4.5
80°-90°	208.8	3.1
90°-100°	219.8	3.2
100°-110°	349.1	5.1
110°-120°	489.1	7.2
120°-130°	592.0	8.7
130°-140°	637.9	9.4
140°-150°	612.7	9.0
150°-160°	511.5	7.5
160°-170°	339.3	5.0
170°-180°	118.6	1.7
0°-30°	670.9	9.9
0°-40°	1103.3	16.2
0°-60°	2020.2	29.7
0°-90°	2927.1	43.1
90°-120°	1058.0	15.6
90°-150°	2900.5	42.7
90°-180°	3870.0	56.9
0°-180°	6796.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	862	862	862	862	862	
5°	865	861	853	860	860	82
15°	825	827	827	838	837	232
25°	750	759	770	784	788	345
35°	646	667	691	717	727	404
45°	530	564	607	644	658	409
55°	406	452	516	559	577	363
65°	277	339	412	462	480	275
75°	154	224	304	355	374	163
85°	45	123	202	253	272	48
90°	14	100	202	248	266	11
95°	65	135	211	257	272	71
105°	234	274	340	384	400	247
115°	428	450	502	537	549	423
125°	618	629	664	694	705	552
135°	797	809	824	848	856	616
145°	966	974	980	988	991	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1251	1248	1245	1252	1246	119
180°	1253	1253	1253	1253	1253	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	867.2	866.5	865.8	865.1	864.5	863.3	861.8	860.2	858.7	857.1	858.3
5°	864.6	863.8	863.0	862.1	861.3	860.1	858.4	856.7	855.1	853.4	855.1
7.5°	856.9	856.3	855.7	855.2	854.7	853.8	852.5	851.2	849.9	848.6	850.6
10°	850.9	850.4	849.8	849.2	848.6	848.0	847.2	846.3	845.5	844.7	846.9
12.5°	840.9	841.0	841.1	841.2	841.3	841.1	840.5	839.8	839.3	838.6	840.9
15°	824.7	825.2	825.7	826.3	826.9	827.1	827.1	827.1	827.1	827.1	829.6
17.5°	803.6	804.9	806.0	807.1	808.3	809.3	810.2	811.1	812.0	812.9	815.5
20°	789.7	791.1	792.5	793.9	795.2	796.5	797.6	798.7	799.8	801.0	804.0
22.5°	774.7	776.2	777.9	779.5	781.1	782.7	784.2	785.8	787.3	788.9	792.0
25°	749.7	751.6	753.6	755.5	757.5	759.7	762.1	764.7	767.2	769.6	773.0
27.5°	719.7	722.8	726.0	729.2	732.4	735.4	738.3	741.3	744.2	747.2	751.4
30°	699.7	703.3	706.9	710.5	714.1	717.8	721.4	725.0	728.6	732.2	736.6
32.5°	677.7	681.8	685.8	689.9	693.9	698.1	702.4	706.6	710.9	715.2	720.3
35°	646.0	650.7	655.4	660.1	664.9	669.8	675.1	680.4	685.7	691.0	697.1
37.5°	611.5	616.9	622.4	627.8	633.2	639.4	646.2	653.1	659.9	666.8	673.5
40°	588.5	594.6	600.7	606.8	612.9	619.7	627.2	634.7	642.2	649.7	657.0
42.5°	566.6	572.6	578.7	584.8	590.9	598.3	606.9	615.6	624.1	632.8	640.6
45°	529.8	537.3	544.8	552.3	559.8	568.3	578.1	587.8	597.5	607.2	615.9
47.5°	493.6	501.7	509.9	518.0	526.2	536.0	547.4	558.7	570.1	581.5	590.5
50°	468.6	477.2	485.8	494.4	503.0	513.6	526.0	538.5	551.0	563.5	573.0
52.5°	444.6	453.6	462.7	471.7	480.8	491.9	505.0	518.2	531.3	544.5	554.2
55°	406.1	416.0	426.1	436.1	446.1	458.3	472.7	487.1	501.6	516.0	526.0
57.5°	368.1	379.4	390.6	401.9	413.2	426.2	440.9	455.6	470.3	485.0	495.8
60°	341.1	353.0	365.0	376.9	388.9	402.8	418.6	434.4	450.2	466.0	476.6
62.5°	317.2	329.5	341.9	354.2	366.6	380.7	396.6	412.4	428.3	444.1	455.3
65°	277.4	291.0	304.6	318.2	331.8	346.8	363.2	379.5	395.9	412.3	423.7
67.5°	240.9	255.1	269.3	283.6	297.7	313.2	330.0	346.8	363.5	380.3	391.8
70°	214.9	229.3	243.8	258.2	272.6	288.5	305.7	322.9	340.1	357.3	369.2
72.5°	190.9	205.8	220.7	235.5	250.5	266.6	284.1	301.5	318.9	336.4	348.1
75°	153.7	169.3	184.7	200.3	215.9	232.5	250.3	268.1	285.8	303.6	315.5
77.5°	117.7	134.0	150.3	166.5	182.8	199.9	218.0	236.0	254.0	272.1	284.1
80°	93.7	110.6	127.6	144.6	161.4	179.0	197.0	215.1	233.1	251.1	262.8
82.5°	73.7	90.4	107.1	123.8	140.6	158.1	176.3	194.6	212.9	231.1	242.8
85°	45.0	62.2	79.4	96.6	113.8	131.3	149.1	166.9	184.7	202.4	214.1
87.5°	24.7	41.8	58.9	76.1	93.2	111.1	129.9	148.7	167.5	186.3	197.5
90°	13.5	32.4	51.4	70.4	89.3	110.1	133.1	156.0	179.0	201.9	212.5
92.5°	30.3	47.4	64.4	81.5	98.6	116.3	134.6	152.9	171.2	189.6	200.6
95°	65.0	80.4	95.8	111.1	126.5	142.8	160.0	177.1	194.2	211.3	221.9
97.5°	109.2	122.9	136.6	150.2	163.9	179.1	196.0	213.0	229.8	246.7	257.0
100°	143.0	155.2	167.3	179.4	191.6	205.8	222.1	238.3	254.6	270.8	281.1
102.5°	177.5	188.4	199.3	210.2	221.1	234.6	250.5	266.5	282.5	298.5	308.8
105°	233.5	242.3	251.0	259.8	268.6	280.4	295.3	310.2	325.1	340.1	350.3
107.5°	291.2	298.7	306.1	313.6	321.1	331.7	345.6	359.5	373.2	387.1	396.6
110°	327.4	334.4	341.4	348.3	355.3	365.6	379.2	392.8	406.3	420.0	428.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	368.0	374.1	380.2	386.2	392.3	401.7	414.5	427.2	440.0	452.7	461.1
115°	427.9	432.4	436.8	441.2	445.7	454.0	465.9	478.0	490.0	502.1	510.1
117.5°	486.2	490.1	494.0	497.9	501.7	508.8	519.0	529.3	539.5	549.8	557.4
120°	525.9	529.0	532.0	534.9	537.9	544.0	553.3	562.5	571.8	581.0	588.7
122.5°	562.3	565.1	567.8	570.5	573.2	579.0	588.2	597.3	606.4	615.6	622.6
125°	617.8	619.9	622.0	624.1	626.2	631.4	639.5	647.8	655.9	664.1	670.9
127.5°	672.9	675.3	677.8	680.1	682.6	686.9	693.2	699.5	705.9	712.2	718.2
130°	707.6	710.4	713.1	715.9	718.7	722.8	728.1	733.5	738.9	744.2	750.4
132.5°	746.5	748.8	751.0	753.2	755.4	758.8	763.4	767.9	772.6	777.1	782.5
135°	797.3	799.9	802.4	805.0	807.6	810.6	813.8	817.0	820.3	823.5	829.2
137.5°	852.1	854.1	856.1	858.2	860.3	862.3	864.1	865.9	867.7	869.5	874.5
140°	885.0	886.9	888.7	890.6	892.3	894.1	895.9	897.6	899.4	901.1	905.6
142.5°	918.8	920.7	922.5	924.4	926.2	927.6	928.5	929.4	930.3	931.2	935.0
145°	966.2	967.9	969.6	971.2	972.8	974.4	975.8	977.1	978.6	980.0	981.9
147.5°	1009.6	1011.5	1013.5	1015.5	1017.5	1019.0	1019.9	1020.8	1021.7	1022.7	1023.4
150°	1039.2	1040.6	1042.0	1043.4	1044.8	1046.0	1046.9	1047.9	1048.8	1049.8	1050.4
152.5°	1065.4	1066.8	1068.2	1069.6	1071.1	1072.3	1073.4	1074.6	1075.7	1076.8	1077.7
155°	1104.7	1105.5	1106.1	1106.9	1107.6	1108.2	1109.0	1109.6	1110.4	1111.1	1112.2
157.5°	1138.3	1138.8	1139.3	1139.8	1140.2	1140.7	1141.1	1141.5	1141.9	1142.4	1143.9
160°	1158.6	1159.1	1159.6	1160.1	1160.5	1160.9	1161.1	1161.3	1161.6	1161.8	1163.2
162.5°	1177.2	1177.4	1177.5	1177.5	1177.6	1177.8	1178.0	1178.3	1178.5	1178.8	1180.3
165°	1202.0	1201.8	1201.5	1201.3	1201.0	1200.9	1200.9	1200.9	1200.9	1200.9	1202.6
167.5°	1222.7	1222.0	1221.3	1220.6	1219.9	1219.5	1219.4	1219.4	1219.4	1219.3	1221.0
170°	1233.7	1233.0	1232.3	1231.6	1230.9	1230.4	1230.2	1230.0	1229.7	1229.5	1231.1
172.5°	1241.3	1240.6	1239.9	1239.2	1238.5	1238.0	1237.8	1237.5	1237.3	1237.1	1238.8
175°	1250.6	1249.9	1249.2	1248.5	1247.8	1247.2	1246.8	1246.3	1245.8	1245.3	1247.0
177.5°	1254.4	1253.8	1253.3	1252.7	1252.1	1251.7	1251.3	1250.9	1250.6	1250.2	1251.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	859.3	860.5	861.6	861.9	861.4	861.0	860.5	860.1
5°	856.7	858.4	860.1	860.7	860.5	860.2	859.9	859.7
7.5°	852.6	854.7	856.6	857.5	857.2	857.0	856.6	856.4
10°	849.1	851.3	853.5	854.5	854.2	853.9	853.7	853.4
12.5°	843.1	845.3	847.5	848.5	848.2	847.9	847.7	847.4
15°	832.2	834.6	837.1	838.3	838.0	837.7	837.4	837.1
17.5°	818.2	820.8	823.4	824.7	824.7	824.7	824.7	824.7
20°	807.0	810.1	813.1	814.6	814.6	814.6	814.6	814.6
22.5°	795.0	798.1	801.1	802.9	803.3	803.8	804.2	804.7
25°	776.3	779.7	783.0	785.1	785.9	786.8	787.6	788.4
27.5°	755.6	759.9	764.1	766.5	767.1	767.7	768.3	768.9
30°	741.1	745.5	750.0	752.6	753.4	754.2	755.1	755.9
32.5°	725.5	730.5	735.6	738.9	740.5	741.9	743.5	744.9
35°	703.2	709.3	715.4	719.4	721.4	723.3	725.3	727.2
37.5°	680.3	687.1	693.8	698.2	700.3	702.4	704.4	706.5
40°	664.1	671.4	678.6	683.5	686.0	688.4	691.0	693.5
42.5°	648.5	656.4	664.3	669.4	672.0	674.5	676.9	679.5
45°	624.4	633.1	641.6	647.3	650.1	652.9	655.7	658.4
47.5°	599.5	608.5	617.5	623.5	626.6	629.7	632.7	635.8
50°	582.4	591.8	601.3	607.6	610.6	613.6	616.7	619.7
52.5°	563.9	573.5	583.2	589.6	592.9	596.2	599.5	602.8
55°	536.1	546.0	556.0	562.8	566.4	570.1	573.6	577.2
57.5°	506.6	517.4	528.2	535.3	539.0	542.7	546.3	550.0
60°	487.1	497.7	508.3	515.5	519.3	523.3	527.2	531.0
62.5°	466.5	477.7	488.9	496.4	500.0	503.7	507.4	511.0
65°	435.1	446.5	457.9	465.4	469.0	472.5	476.2	479.8
67.5°	403.3	414.8	426.3	434.0	437.7	441.5	445.3	449.1
70°	381.2	393.1	405.1	412.7	416.0	419.4	422.7	426.1
72.5°	359.8	371.5	383.2	391.1	395.1	399.1	403.1	407.1
75°	327.5	339.4	351.4	359.1	362.7	366.4	370.0	373.6
77.5°	295.9	307.8	319.7	327.6	331.4	335.3	339.2	343.1
80°	274.4	286.2	297.8	305.6	309.5	313.3	317.2	321.1
82.5°	254.5	266.1	277.8	285.4	289.1	292.8	296.4	300.1
85°	225.8	237.4	249.1	256.8	260.7	264.6	268.5	272.4
87.5°	208.8	220.0	231.3	238.7	242.3	245.9	249.5	253.1
90°	223.2	233.8	244.5	251.6	255.1	258.7	262.3	265.9
92.5°	211.5	222.5	233.5	240.7	244.0	247.4	250.8	254.1
95°	232.4	243.0	253.6	260.2	263.1	266.0	268.8	271.7
97.5°	267.3	277.5	287.8	294.6	297.7	301.0	304.2	307.4
100°	291.4	301.7	311.9	318.5	321.3	324.1	326.9	329.8
102.5°	319.0	329.2	339.5	346.0	348.8	351.6	354.5	357.3
105°	360.4	370.6	380.7	387.4	390.4	393.5	396.6	399.6
107.5°	406.1	415.6	425.2	430.9	432.8	434.9	436.8	438.8
110°	437.7	446.6	455.5	461.1	463.5	465.9	468.2	470.5





TEST NUMBER: P331606-930

CATALOG NUMBER: S122DIW-S1005D1240U930-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	469.4	477.7	486.0	491.5	494.0	496.5	499.0	501.6
115°	518.3	526.4	534.4	539.6	542.0	544.4	546.7	549.0
117.5°	565.1	572.7	580.3	585.2	587.4	589.5	591.7	593.8
120°	596.5	604.3	612.0	617.1	619.5	621.8	624.2	626.6
122.5°	629.5	636.5	643.5	648.1	650.1	652.2	654.4	656.4
125°	677.7	684.4	691.3	695.8	698.1	700.3	702.5	704.8
127.5°	724.2	730.3	736.4	740.2	741.9	743.6	745.3	747.0
130°	756.6	762.8	769.0	772.7	774.0	775.3	776.6	777.9
132.5°	788.0	793.4	798.7	802.3	803.7	805.2	806.7	808.1
135°	834.7	840.3	845.9	849.5	851.0	852.5	854.0	855.5
137.5°	879.4	884.4	889.2	892.2	893.2	894.1	895.0	895.9
140°	910.0	914.4	918.8	921.5	922.2	922.9	923.7	924.3
142.5°	938.7	942.4	946.2	948.3	948.8	949.3	949.8	950.3
145°	983.8	985.7	987.6	988.8	989.2	989.7	990.1	990.6
147.5°	1024.2	1024.9	1025.6	1025.9	1025.6	1025.5	1025.2	1025.0
150°	1051.2	1051.9	1052.6	1052.6	1051.9	1051.2	1050.4	1049.8
152.5°	1078.6	1079.5	1080.4	1080.4	1079.5	1078.6	1077.7	1076.8
155°	1113.5	1114.6	1115.7	1116.0	1115.3	1114.6	1113.9	1113.2
157.5°	1145.6	1147.1	1148.8	1149.0	1147.9	1146.7	1145.6	1144.4
160°	1164.7	1166.0	1167.4	1167.7	1166.8	1165.8	1164.9	1163.9
162.5°	1181.9	1183.5	1185.1	1185.4	1184.2	1183.1	1181.9	1180.9
165°	1204.2	1205.8	1207.5	1207.7	1206.6	1205.4	1204.2	1203.1
167.5°	1222.6	1224.3	1225.9	1226.1	1224.9	1223.7	1222.5	1221.2
170°	1232.7	1234.4	1236.1	1236.2	1234.8	1233.4	1231.9	1230.5
172.5°	1240.4	1242.0	1243.7	1243.7	1242.4	1241.0	1239.6	1238.1
175°	1248.6	1250.3	1251.9	1252.1	1250.6	1249.2	1247.8	1246.3
177.5°	1252.5	1253.6	1254.7	1254.7	1253.6	1252.5	1251.3	1250.2
180°	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7	1252.7

(END OF REPORT)