

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: P331611-930

Luminaire Tested: **S122DIW-S1005D1440U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331611-930  
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-S1005D1440U930-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7989.2 lumens  
Efficiency: N/A  
Efficacy: 96.4 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: Semi-Indirect

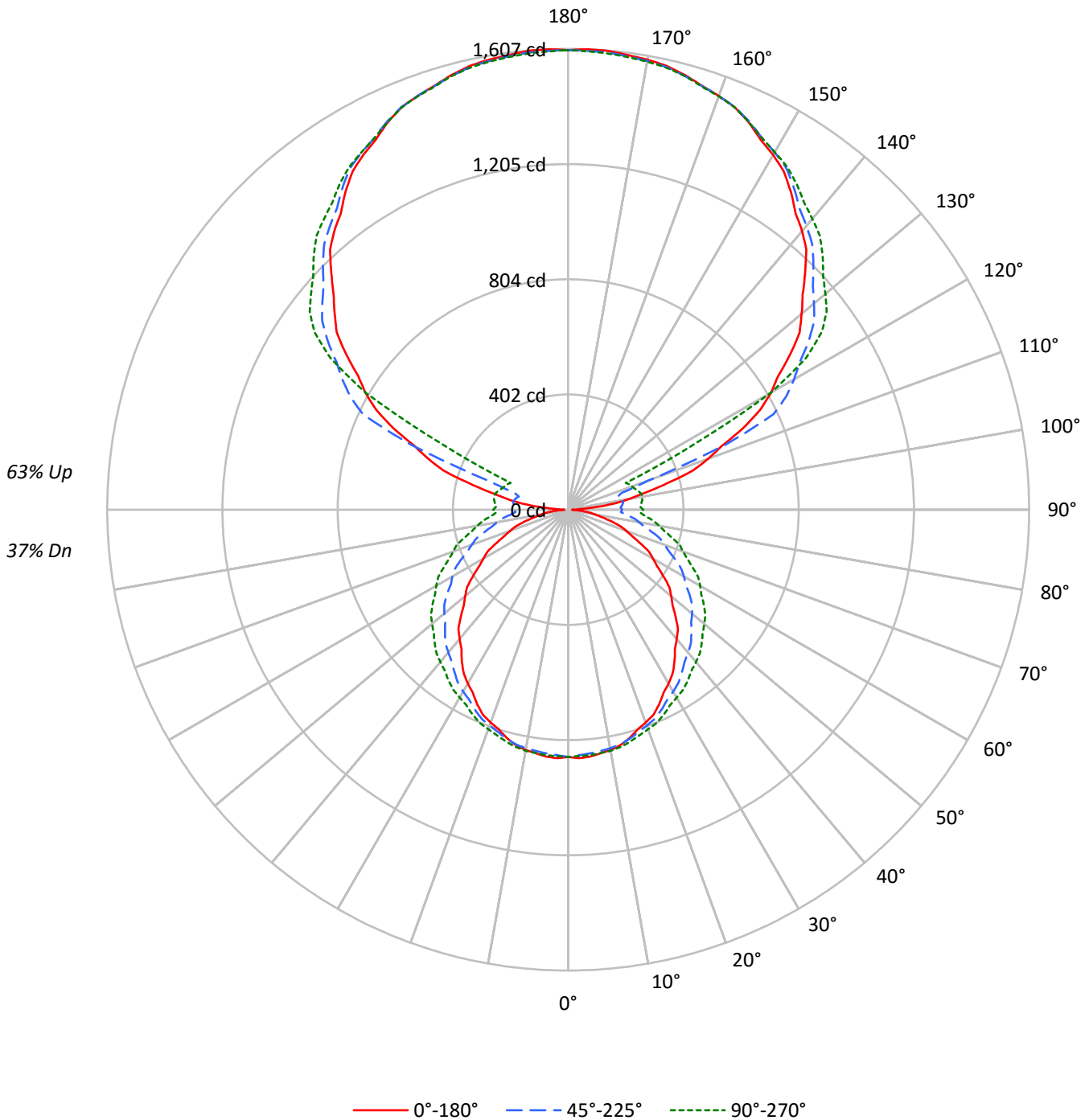
Input Watts (W): 82.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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CATALOG NUMBER: S122DIW-S1005D1440U930-4F0-1E-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	0
RCR																		
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	60	56	52	49	44	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	41	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	39	29	23	18	24	19	15	19	15	12	14	11	10	8

**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	1.0
10°-20°	234.3	2.9
20°-30°	355.0	4.4
30°-40°	432.4	5.4
40°-50°	465.2	5.8
50°-60°	451.7	5.7
60°-70°	394.4	4.9
70°-80°	303.7	3.8
80°-90°	207.7	2.6
90°-100°	193.9	2.4
100°-110°	298.5	3.7
110°-120°	591.7	7.4
120°-130°	902.8	11.3
130°-140°	935.7	11.7
140°-150°	857.7	10.7
150°-160°	687.4	8.6
160°-170°	443.0	5.5
170°-180°	152.5	1.9
0°-30°	670.9	8.4
0°-40°	1103.3	13.8
0°-60°	2020.2	25.3
0°-90°	2926.0	36.6
90°-120°	1084.1	13.6
90°-150°	3780.3	47.3
90°-180°	5063.0	63.4
0°-180°	7989.2	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	99	188	242	261	12
95°	85	109	189	240	256	100
105°	359	412	178	233	253	384
115°	672	708	790	315	221	661
125°	945	963	1022	1063	1079	843
135°	1168	1187	1209	1245	1255	902
145°	1353	1353	1372	1386	1388	846
155°	1490	1481	1494	1500	1491	686
165°	1570	1564	1566	1574	1566	443
175°	1606	1598	1600	1607	1597	153
180°	1602	1602	1602	1602	1602	



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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	110.8	129.0	147.2	165.3	183.5	195.2
90°	13.6	32.6	51.5	70.4	89.4	108.8	128.7	148.5	168.3	188.1	200.5
92.5°	34.9	49.7	64.4	79.2	93.8	110.3	128.4	146.6	164.7	182.9	194.4
95°	85.4	89.9	94.5	99.0	103.5	115.0	133.5	152.0	170.5	188.9	200.7
97.5°	158.3	145.9	133.6	121.2	108.9	112.8	133.0	153.1	173.3	193.5	204.8
100°	214.0	189.0	164.0	138.9	113.9	111.3	131.3	151.2	171.1	191.0	203.4
102.5°	274.2	276.1	278.0	280.0	281.8	272.1	250.5	228.9	207.4	185.9	198.6
105°	358.7	374.5	390.3	406.1	421.9	401.8	345.9	290.0	234.1	178.2	190.8
107.5°	456.6	469.3	481.9	494.6	507.3	478.4	407.8	337.3	266.8	196.2	202.7
110°	518.7	529.6	540.6	551.5	562.6	537.6	476.7	415.9	355.0	294.2	277.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	578.0	587.5	597.0	606.4	615.9	617.9	612.5	607.0	601.5	596.1	510.9
115°	671.7	679.1	686.6	694.1	701.5	714.7	733.6	752.5	771.4	790.4	679.5
117.5°	754.2	761.1	768.0	774.9	781.8	793.2	809.2	825.2	841.1	857.1	836.5
120°	815.5	820.4	825.4	830.4	835.4	845.7	861.4	877.2	892.9	908.7	919.6
122.5°	867.4	871.9	876.4	880.9	885.4	895.4	910.9	926.4	941.9	957.4	966.8
125°	945.2	948.6	951.9	955.3	958.6	967.2	981.0	994.7	1008.5	1022.3	1031.6
127.5°	1016.8	1020.3	1023.8	1027.2	1030.6	1037.7	1048.6	1059.4	1070.2	1081.0	1090.5
130°	1062.3	1066.2	1070.0	1073.8	1077.7	1083.9	1092.7	1101.3	1109.9	1118.6	1128.1
132.5°	1108.7	1111.9	1115.2	1118.4	1121.6	1126.9	1134.2	1141.6	1148.9	1156.3	1165.1
135°	1167.8	1171.9	1176.0	1180.1	1184.2	1188.9	1193.9	1199.1	1204.1	1209.3	1217.6
137.5°	1228.7	1231.6	1234.4	1237.2	1240.1	1243.4	1247.2	1251.1	1255.0	1258.8	1266.5
140°	1268.6	1270.4	1272.2	1274.0	1275.8	1278.4	1281.7	1285.2	1288.5	1291.9	1298.7
142.5°	1302.0	1303.6	1305.2	1306.8	1308.3	1310.8	1314.2	1317.5	1320.9	1324.2	1329.9
145°	1353.2	1352.9	1352.7	1352.4	1352.2	1354.2	1358.6	1363.0	1367.3	1371.7	1375.2
147.5°	1398.9	1397.9	1396.9	1396.0	1395.0	1396.6	1400.9	1405.3	1409.7	1414.0	1415.5
150°	1428.6	1426.8	1425.0	1423.2	1421.3	1422.5	1426.6	1430.8	1434.8	1439.0	1440.6
152.5°	1453.6	1451.6	1449.6	1447.6	1445.6	1446.5	1450.4	1454.3	1458.2	1462.2	1463.7
155°	1490.0	1487.7	1485.4	1483.0	1480.7	1481.2	1484.3	1487.4	1490.4	1493.5	1495.0
157.5°	1518.6	1516.6	1514.7	1512.7	1510.7	1510.8	1513.0	1515.2	1517.3	1519.5	1521.3
160°	1535.2	1533.7	1532.2	1530.6	1529.1	1529.1	1530.6	1532.2	1533.7	1535.2	1536.8
162.5°	1550.0	1548.6	1547.0	1545.5	1543.9	1543.8	1545.2	1546.5	1547.8	1549.2	1550.9
165°	1570.0	1568.5	1566.9	1565.4	1563.8	1563.5	1564.2	1565.0	1565.8	1566.5	1568.4
167.5°	1584.9	1583.3	1581.8	1580.2	1578.7	1578.3	1579.0	1579.7	1580.5	1581.2	1583.0
170°	1593.3	1591.7	1590.2	1588.6	1587.1	1586.5	1587.1	1587.6	1588.0	1588.6	1590.4
172.5°	1598.8	1597.3	1595.7	1594.2	1592.6	1592.1	1592.6	1593.1	1593.7	1594.2	1595.9
175°	1606.0	1604.2	1602.4	1600.6	1598.8	1598.1	1598.6	1599.1	1599.7	1600.2	1602.0
177.5°	1607.1	1605.7	1604.3	1602.8	1601.3	1600.8	1600.9	1601.2	1601.3	1601.6	1603.0
180°	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5



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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°	206.8	218.3	229.9	237.5	241.2	244.8	248.5	252.2
90°	212.9	225.3	237.7	245.8	249.6	253.5	257.4	261.2
92.5°	205.9	217.5	229.0	236.7	240.3	243.9	247.6	251.2
95°	212.6	224.5	236.3	243.7	246.8	249.9	253.0	256.0
97.5°	216.1	227.4	238.7	246.1	249.7	253.3	256.9	260.5
100°	215.7	228.0	240.4	248.3	251.9	255.4	259.0	262.6
102.5°	211.3	224.1	236.8	245.1	248.8	252.7	256.4	260.2
105°	203.3	215.8	228.4	236.7	240.8	244.9	249.0	253.1
107.5°	209.1	215.6	222.0	227.3	231.4	235.5	239.5	243.6
110°	260.4	243.4	226.6	220.2	224.3	228.4	232.4	236.5





TEST NUMBER: P331611-930

CATALOG NUMBER: S122DIW-S1005D1440U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	425.8	340.7	255.6	215.0	218.8	222.7	226.6	230.5
115°	568.4	457.5	346.5	283.2	267.7	252.3	236.8	221.3
117.5°	815.9	795.2	774.6	735.2	677.1	619.0	560.8	502.6
120°	930.4	941.3	952.1	941.7	910.0	878.2	846.5	814.8
122.5°	976.2	985.6	995.1	997.7	993.5	989.4	985.3	981.1
125°	1040.9	1050.2	1059.5	1065.8	1069.1	1072.4	1075.6	1078.9
127.5°	1100.1	1109.5	1119.1	1125.1	1127.7	1130.3	1132.9	1135.5
130°	1137.6	1147.1	1156.6	1162.4	1164.3	1166.3	1168.2	1170.2
132.5°	1173.9	1182.8	1191.6	1197.1	1199.1	1201.0	1203.0	1204.9
135°	1226.0	1234.4	1242.8	1247.9	1249.6	1251.3	1253.0	1254.7
137.5°	1274.1	1281.7	1289.3	1293.6	1294.7	1295.7	1296.7	1297.7
140°	1305.5	1312.2	1319.0	1322.5	1322.9	1323.3	1323.6	1324.0
142.5°	1335.5	1341.2	1346.9	1349.8	1350.0	1350.1	1350.3	1350.5
145°	1378.7	1382.2	1385.6	1387.4	1387.5	1387.6	1387.7	1387.8
147.5°	1417.1	1418.6	1420.2	1420.7	1420.3	1419.9	1419.5	1419.1
150°	1442.1	1443.7	1445.2	1445.3	1444.1	1442.8	1441.4	1440.1
152.5°	1465.3	1466.8	1468.4	1468.3	1466.6	1464.9	1463.2	1461.5
155°	1496.6	1498.1	1499.7	1499.4	1497.4	1495.3	1493.2	1491.2
157.5°	1523.0	1524.7	1526.5	1526.3	1524.4	1522.3	1520.3	1518.3
160°	1538.3	1539.9	1541.4	1541.3	1539.5	1537.7	1535.9	1534.1
162.5°	1552.7	1554.4	1556.2	1555.9	1553.7	1551.5	1549.3	1547.1
165°	1570.2	1572.0	1573.8	1573.8	1572.0	1570.2	1568.4	1566.5
167.5°	1584.8	1586.6	1588.4	1588.1	1585.8	1583.5	1581.2	1578.8
170°	1592.2	1594.0	1595.8	1595.5	1593.3	1590.9	1588.6	1586.2
172.5°	1597.7	1599.5	1601.3	1601.1	1598.8	1596.4	1594.2	1591.8
175°	1603.8	1605.6	1607.4	1607.0	1604.4	1601.8	1599.3	1596.7
177.5°	1604.4	1605.9	1607.4	1607.1	1605.2	1603.4	1601.6	1599.7
180°	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5	1602.5

(END OF REPORT)