

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: P331612-830

Luminaire Tested: **S122DIW-S1005D1440U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331612-830  
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-S1005D1440U830-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8517.4 lumens  
Efficiency: N/A  
Efficacy: 102.7 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

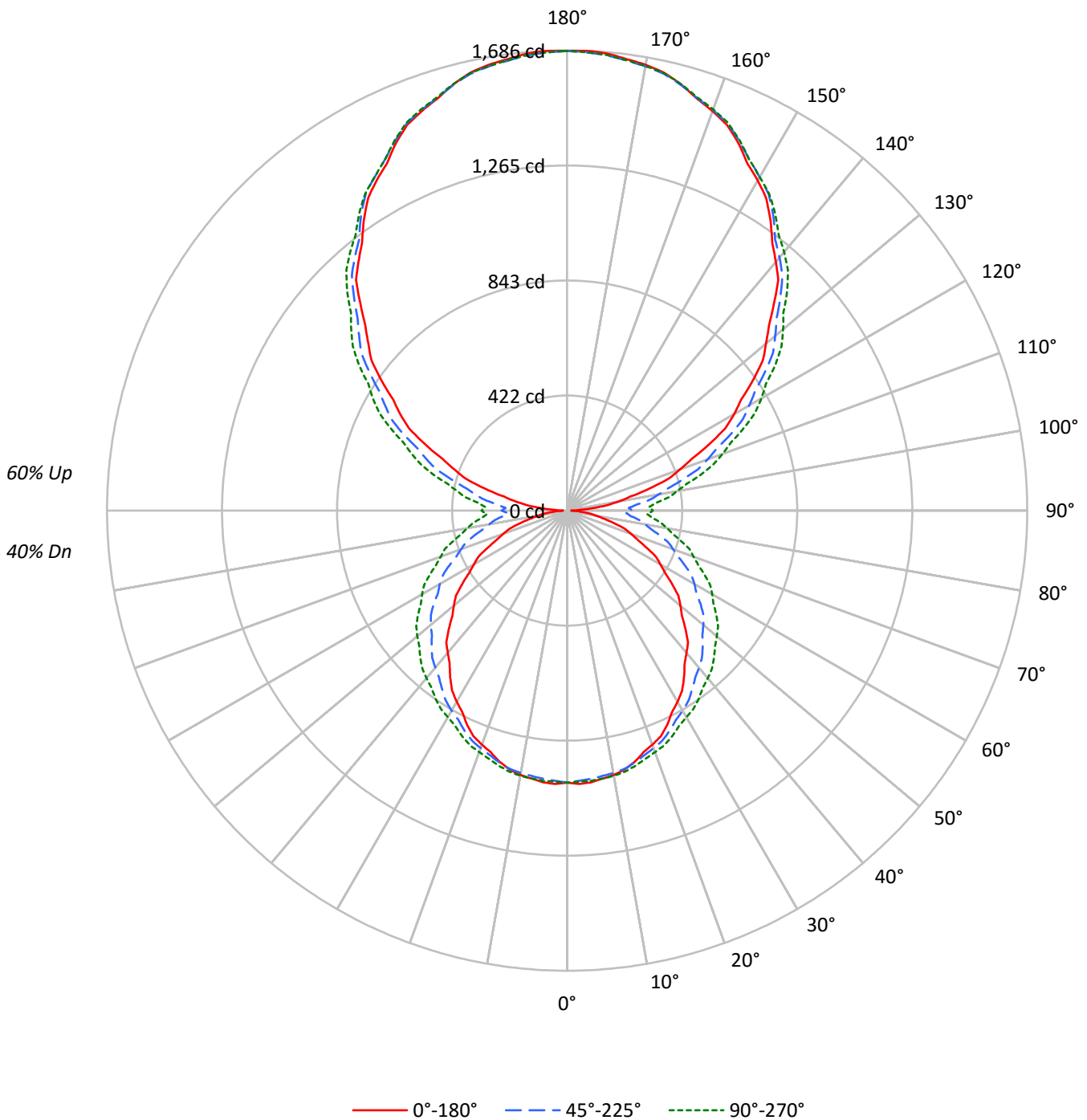
Input Watts (W): 82.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	95	95	95	95	78	78	78		62	62	62		47	47	47	40
1	94	89	85	81	85	81	78	74	66	64	61		52	50	49		39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50		45	42	40		34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41		39	36	33		30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35		35	31	28		26	24	21	17
5	65	53	44	38	58	48	41	35	39	34	30		31	27	24		24	21	18	15
6	59	47	39	33	54	43	36	31	35	30	26		28	24	21		21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22		25	21	18		19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20		23	19	16		18	15	13	10
9	47	35	27	22	43	32	25	21	26	21	18		21	17	14		16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16		20	16	13		15	12	10	8

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

	0°	45°	90°
0°	16091	16091	16091
5°	16172	15491	15432
10°	16069	15033	14865
15°	15848	14548	14266
20°	15567	14030	13691
25°	15292	13528	13167
30°	14902	13015	12643
35°	14508	12517	12274
40°	14092	12094	11903
45°	13700	11715	11587
50°	13277	11373	11276
55°	12834	11004	10959
60°	12292	10623	10624
65°	11728	10173	10227
70°	11096	9693	9797
75°	10286	9222	9401
80°	9006	8739	9001
85°	7780	8321	8687



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.4	1.1
10°-20°	270.8	3.2
20°-30°	410.4	4.8
30°-40°	499.9	5.9
40°-50°	537.8	6.3
50°-60°	522.2	6.1
60°-70°	456.0	5.4
70°-80°	351.0	4.1
80°-90°	242.3	2.8
90°-100°	269.0	3.2
100°-110°	449.9	5.3
110°-120°	644.7	7.6
120°-130°	788.6	9.3
130°-140°	854.4	10.0
140°-150°	823.0	9.7
150°-160°	687.6	8.1
160°-170°	456.0	5.4
170°-180°	159.4	1.9
0°-30°	775.7	9.1
0°-40°	1275.5	15.0
0°-60°	2335.5	27.4
0°-90°	3384.8	39.7
90°-120°	1363.6	16.0
90°-150°	3829.6	45.0
90°-180°	5133.0	60.3
0°-180°	8517.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	1000	995	987	995	994	95
15°	953	956	956	968	968	268
25°	867	877	890	906	911	398
35°	747	772	799	829	841	467
45°	612	652	702	745	761	473
55°	470	523	596	647	667	420
65°	321	392	477	534	555	318
75°	178	259	351	411	432	188
85°	52	142	234	292	315	56
90°	16	118	240	293	314	14
95°	86	168	257	310	326	94
105°	313	361	437	488	506	331
115°	574	601	661	701	714	567
125°	830	844	885	918	931	742
135°	1071	1087	1104	1132	1141	828
145°	1299	1309	1317	1327	1329	811
155°	1485	1489	1493	1500	1496	683
165°	1616	1614	1614	1623	1617	455
175°	1681	1677	1674	1683	1675	160
180°	1684	1684	1684	1684	1684	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	1002.5	1001.7	1000.9	1000.1	999.4	998.1	996.3	994.5	992.7	990.9	992.2
5°	999.6	998.6	997.7	996.6	995.7	994.3	992.4	990.4	988.5	986.6	988.5
7.5°	990.6	990.0	989.3	988.7	988.1	987.0	985.5	984.0	982.6	981.1	983.4
10°	983.7	983.1	982.4	981.8	981.1	980.3	979.4	978.4	977.4	976.5	979.0
12.5°	972.1	972.2	972.4	972.5	972.6	972.3	971.7	970.9	970.3	969.5	972.1
15°	953.4	954.0	954.6	955.3	955.9	956.2	956.2	956.2	956.2	956.2	959.1
17.5°	929.1	930.5	931.8	933.1	934.4	935.7	936.7	937.7	938.8	939.8	942.8
20°	912.9	914.5	916.2	917.8	919.4	920.8	922.1	923.3	924.6	926.0	929.4
22.5°	895.6	897.4	899.3	901.2	903.1	904.8	906.6	908.4	910.2	912.0	915.6
25°	866.7	868.9	871.2	873.5	875.7	878.3	881.1	884.0	886.9	889.8	893.6
27.5°	832.0	835.7	839.3	843.0	846.7	850.2	853.6	857.0	860.4	863.8	868.6
30°	808.9	813.0	817.3	821.4	825.6	829.8	834.0	838.1	842.3	846.5	851.6
32.5°	783.4	788.2	792.9	797.6	802.2	807.0	812.0	816.9	821.9	826.8	832.7
35°	746.8	752.2	757.7	763.2	768.6	774.4	780.5	786.6	792.7	798.8	805.9
37.5°	706.9	713.2	719.5	725.8	732.1	739.1	747.1	755.0	762.9	770.8	778.6
40°	680.3	687.4	694.5	701.5	708.6	716.4	725.1	733.8	742.4	751.1	759.5
42.5°	655.0	661.9	669.0	676.1	683.2	691.6	701.6	711.6	721.5	731.5	740.6
45°	612.5	621.1	629.8	638.5	647.1	657.0	668.4	679.6	690.8	702.0	712.0
47.5°	570.6	580.0	589.5	598.9	608.3	619.6	632.8	645.9	659.1	672.2	682.7
50°	541.7	551.7	561.6	571.6	581.5	593.7	608.1	622.5	637.0	651.5	662.4
52.5°	514.0	524.4	534.9	545.4	555.8	568.6	583.8	599.1	614.3	629.5	640.6
55°	469.5	481.0	492.6	504.2	515.7	529.8	546.5	563.2	579.9	596.5	608.1
57.5°	425.6	438.6	451.6	464.7	477.7	492.7	509.7	526.7	543.8	560.7	573.2
60°	394.4	408.1	422.0	435.7	449.6	465.6	483.9	502.2	520.5	538.8	551.0
62.5°	366.6	380.9	395.2	409.5	423.9	440.2	458.5	476.7	495.1	513.4	526.3
65°	320.7	336.4	352.1	367.9	383.6	401.0	419.9	438.8	457.7	476.6	489.8
67.5°	278.5	294.9	311.3	327.8	344.2	362.1	381.5	401.0	420.3	439.7	453.0
70°	248.5	265.1	281.8	298.5	315.2	333.5	353.5	373.3	393.2	413.1	426.9
72.5°	220.7	237.9	255.1	272.3	289.5	308.2	328.4	348.6	368.7	388.9	402.4
75°	177.7	195.7	213.6	231.6	249.6	268.8	289.4	309.9	330.5	351.0	364.8
77.5°	136.1	154.9	173.7	192.5	211.3	231.1	252.0	272.9	293.7	314.6	328.4
80°	108.3	127.9	147.5	167.1	186.6	206.9	227.7	248.6	269.5	290.3	303.8
82.5°	85.2	104.5	123.9	143.2	162.5	182.8	203.9	225.0	246.1	267.2	280.7
85°	52.0	71.9	91.8	111.7	131.6	151.8	172.4	192.9	213.5	234.0	247.5
87.5°	28.6	48.4	68.3	88.2	108.1	129.0	151.0	173.0	194.8	216.8	229.8
90°	15.8	38.3	60.7	83.1	105.5	130.4	158.0	185.4	212.9	240.4	252.6
92.5°	38.5	58.7	78.8	98.9	119.0	139.8	161.2	182.7	204.1	225.5	238.2
95°	85.5	103.7	122.0	140.2	158.4	177.5	197.4	217.3	237.1	257.0	269.3
97.5°	145.1	161.3	177.5	193.7	209.9	227.8	247.5	267.2	286.9	306.6	318.5
100°	190.6	205.0	219.3	233.8	248.2	264.9	283.8	302.7	321.6	340.5	352.4
102.5°	237.1	250.1	262.9	275.8	288.6	304.4	323.1	341.8	360.4	379.1	391.0
105°	312.7	323.0	333.3	343.5	353.7	367.5	384.8	402.2	419.5	436.9	448.7
107.5°	390.3	399.2	407.9	416.8	425.7	438.1	454.0	470.0	486.0	502.0	513.0
110°	439.1	447.5	455.8	464.1	472.4	484.5	500.2	515.9	531.6	547.3	557.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	493.7	501.1	508.3	515.6	522.9	533.9	548.6	563.3	578.0	592.7	602.2
115°	574.2	579.6	585.0	590.4	595.9	605.5	619.3	633.1	647.0	660.7	670.1
117.5°	652.8	657.7	662.5	667.3	672.2	680.4	692.0	703.6	715.2	726.8	735.5
120°	706.2	710.1	713.9	717.7	721.5	728.6	738.9	749.2	759.5	769.9	778.8
122.5°	755.2	758.7	762.2	765.8	769.3	776.3	786.6	796.8	807.2	817.5	825.5
125°	829.9	832.7	835.6	838.4	841.2	847.3	856.7	866.0	875.3	884.7	892.3
127.5°	904.1	907.3	910.6	913.9	917.2	922.4	929.5	936.7	943.8	950.9	957.8
130°	950.6	954.4	958.2	962.1	965.8	970.7	976.9	983.0	989.1	995.1	1002.2
132.5°	1003.0	1006.0	1009.0	1012.0	1015.0	1019.3	1024.5	1029.9	1035.2	1040.6	1046.6
135°	1071.4	1074.9	1078.4	1081.9	1085.3	1088.9	1092.8	1096.6	1100.5	1104.3	1110.8
137.5°	1145.0	1147.8	1150.6	1153.4	1156.1	1158.7	1160.8	1163.1	1165.4	1167.5	1173.2
140°	1189.4	1191.8	1194.4	1196.9	1199.5	1201.8	1204.0	1206.3	1208.4	1210.7	1215.8
142.5°	1234.8	1237.4	1239.8	1242.4	1244.9	1246.8	1247.9	1249.2	1250.4	1251.6	1255.9
145°	1298.7	1301.0	1303.2	1305.3	1307.6	1309.7	1311.5	1313.4	1315.3	1317.2	1319.5
147.5°	1357.0	1359.6	1362.3	1365.0	1367.6	1369.6	1370.8	1372.1	1373.4	1374.6	1375.5
150°	1396.8	1398.6	1400.6	1402.5	1404.4	1405.9	1407.2	1408.4	1409.8	1411.0	1411.9
152.5°	1432.0	1433.9	1435.8	1437.7	1439.6	1441.3	1442.8	1444.4	1445.9	1447.4	1448.6
155°	1484.9	1485.8	1486.8	1487.7	1488.7	1489.6	1490.5	1491.5	1492.4	1493.4	1495.0
157.5°	1530.0	1530.7	1531.3	1532.0	1532.6	1533.2	1533.8	1534.4	1534.9	1535.5	1537.6
160°	1557.4	1558.0	1558.6	1559.2	1559.9	1560.4	1560.7	1560.9	1561.3	1561.6	1563.5
162.5°	1582.3	1582.5	1582.6	1582.7	1582.9	1583.1	1583.4	1583.8	1584.0	1584.3	1586.5
165°	1615.6	1615.3	1615.0	1614.7	1614.4	1614.2	1614.2	1614.2	1614.2	1614.2	1616.4
167.5°	1643.4	1642.5	1641.5	1640.6	1639.6	1639.2	1639.1	1639.1	1639.0	1638.9	1641.2
170°	1658.2	1657.3	1656.3	1655.4	1654.4	1653.8	1653.5	1653.2	1652.8	1652.6	1654.7
172.5°	1668.5	1667.5	1666.6	1665.7	1664.7	1664.1	1663.8	1663.4	1663.1	1662.7	1665.0
175°	1680.9	1680.0	1679.0	1678.1	1677.2	1676.4	1675.7	1675.1	1674.5	1673.9	1676.1
177.5°	1686.1	1685.4	1684.6	1683.9	1683.1	1682.4	1681.9	1681.4	1680.9	1680.4	1681.9
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	993.4	994.8	996.1	996.5	995.9	995.4	994.9	994.4
5°	990.4	992.4	994.3	995.0	994.8	994.5	994.1	993.8
7.5°	985.7	988.1	990.3	991.4	991.0	990.7	990.3	990.0
10°	981.6	984.2	986.7	987.9	987.5	987.2	986.9	986.6
12.5°	974.7	977.2	979.8	980.9	980.6	980.2	980.0	979.7
15°	962.1	964.9	967.8	969.1	968.7	968.5	968.1	967.8
17.5°	945.8	948.9	951.9	953.4	953.4	953.4	953.4	953.4
20°	932.9	936.5	940.0	941.8	941.8	941.8	941.8	941.8
22.5°	919.1	922.7	926.1	928.2	928.7	929.3	929.7	930.3
25°	897.5	901.4	905.2	907.6	908.6	909.6	910.5	911.4
27.5°	873.5	878.4	883.4	886.1	886.8	887.5	888.3	888.9
30°	856.8	861.9	867.0	870.1	871.0	871.9	873.0	873.9
32.5°	838.7	844.5	850.5	854.2	856.0	857.7	859.5	861.2
35°	812.9	820.0	827.1	831.7	834.0	836.2	838.5	840.7
37.5°	786.5	794.3	802.1	807.2	809.5	812.0	814.4	816.7
40°	767.8	776.2	784.5	790.1	793.1	795.9	798.8	801.7
42.5°	749.7	758.8	768.0	773.9	776.8	779.8	782.6	785.5
45°	721.9	731.9	741.8	748.4	751.6	754.8	758.0	761.2
47.5°	693.1	703.4	713.9	720.9	724.3	727.9	731.4	735.0
50°	673.3	684.2	695.1	702.4	705.9	709.4	712.9	716.4
52.5°	651.9	663.0	674.2	681.6	685.4	689.3	693.1	696.8
55°	619.7	631.2	642.8	650.6	654.8	659.0	663.2	667.3
57.5°	585.7	598.1	610.6	618.9	623.1	627.4	631.6	635.8
60°	563.2	575.4	587.6	596.0	600.4	604.9	609.4	613.9
62.5°	539.3	552.2	565.2	573.8	578.1	582.3	586.5	590.8
65°	503.0	516.1	529.3	538.0	542.2	546.3	550.5	554.7
67.5°	466.3	479.6	492.9	501.7	506.1	510.4	514.8	519.2
70°	440.7	454.5	468.3	477.1	481.0	484.8	488.7	492.6
72.5°	415.9	429.5	443.0	452.1	456.8	461.4	466.0	470.6
75°	378.6	392.4	406.2	415.2	419.3	423.6	427.7	431.9
77.5°	342.0	355.8	369.6	378.7	383.1	387.7	392.2	396.6
80°	317.3	330.8	344.3	353.3	357.8	362.2	366.7	371.3
82.5°	294.2	307.6	321.1	330.0	334.2	338.5	342.7	346.9
85°	261.0	274.5	287.9	296.9	301.4	305.9	310.4	314.9
87.5°	242.7	255.7	268.7	277.2	281.4	285.6	289.7	294.0
90°	264.9	277.0	289.3	297.5	301.6	305.8	309.9	314.1
92.5°	250.9	263.6	276.3	284.6	288.5	292.5	296.3	300.3
95°	281.4	293.6	305.9	313.6	316.8	320.0	323.2	326.4
97.5°	330.4	342.2	354.1	361.9	365.6	369.4	373.1	376.8
100°	364.3	376.2	388.0	395.6	398.8	402.0	405.2	408.5
102.5°	402.8	414.7	426.5	434.1	437.3	440.5	443.7	447.0
105°	460.5	472.4	484.3	492.0	495.5	499.1	502.6	506.1
107.5°	524.1	535.1	546.1	552.7	554.8	556.9	558.9	561.0
110°	567.9	578.2	588.4	594.8	597.5	600.0	602.7	605.2





TEST NUMBER: P331612-830

CATALOG NUMBER: S122DIW-S1005D1440U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	611.7	621.2	630.7	637.0	639.8	642.6	645.5	648.3
115°	679.4	688.7	698.0	703.9	706.5	709.1	711.7	714.3
117.5°	744.2	753.0	761.8	767.2	769.6	771.9	774.2	776.6
120°	787.8	796.8	805.8	811.5	814.2	816.7	819.4	821.9
122.5°	833.4	841.4	849.3	854.5	856.9	859.1	861.5	863.8
125°	900.0	907.8	915.5	920.7	923.2	925.8	928.4	930.9
127.5°	964.6	971.4	978.3	982.6	984.4	986.2	988.0	989.9
130°	1009.3	1016.4	1023.5	1027.7	1029.0	1030.3	1031.6	1032.8
132.5°	1052.6	1058.7	1064.8	1068.6	1070.2	1071.7	1073.3	1074.8
135°	1117.2	1123.6	1130.0	1134.1	1135.7	1137.3	1138.9	1140.6
137.5°	1178.8	1184.5	1190.1	1193.4	1194.4	1195.3	1196.2	1197.1
140°	1221.0	1226.1	1231.2	1234.2	1234.8	1235.5	1236.1	1236.8
142.5°	1260.3	1264.7	1269.0	1271.4	1271.8	1272.2	1272.6	1273.0
145°	1321.7	1323.9	1326.2	1327.5	1327.9	1328.1	1328.5	1328.8
147.5°	1376.5	1377.4	1378.5	1378.7	1378.3	1377.8	1377.4	1377.0
150°	1412.9	1413.8	1414.8	1414.8	1413.8	1412.9	1411.9	1411.0
152.5°	1449.7	1451.0	1452.2	1452.2	1451.0	1449.7	1448.6	1447.4
155°	1496.6	1498.2	1499.7	1500.1	1499.1	1498.2	1497.2	1496.3
157.5°	1539.7	1541.9	1544.1	1544.4	1542.8	1541.3	1539.8	1538.3
160°	1565.4	1567.3	1569.1	1569.5	1568.2	1567.0	1565.8	1564.4
162.5°	1588.7	1590.8	1592.9	1593.3	1591.8	1590.3	1588.7	1587.1
165°	1618.6	1620.8	1623.1	1623.3	1621.7	1620.2	1618.6	1617.0
167.5°	1643.3	1645.6	1647.8	1648.0	1646.4	1644.7	1643.1	1641.4
170°	1657.0	1659.2	1661.4	1661.5	1659.6	1657.7	1655.9	1654.0
172.5°	1667.2	1669.4	1671.6	1671.8	1669.9	1668.0	1666.1	1664.2
175°	1678.3	1680.5	1682.7	1682.9	1680.9	1679.0	1677.2	1675.3
177.5°	1683.5	1685.0	1686.5	1686.5	1685.0	1683.5	1681.9	1680.4
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9

(END OF REPORT)