

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: P331611-935

Luminaire Tested: **S122DIW-S1005D1440U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331611-935
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-S1005D1440U935-4F0-1E-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: 8437.0 lumens
Efficiency: N/A
Efficacy: 101.8 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

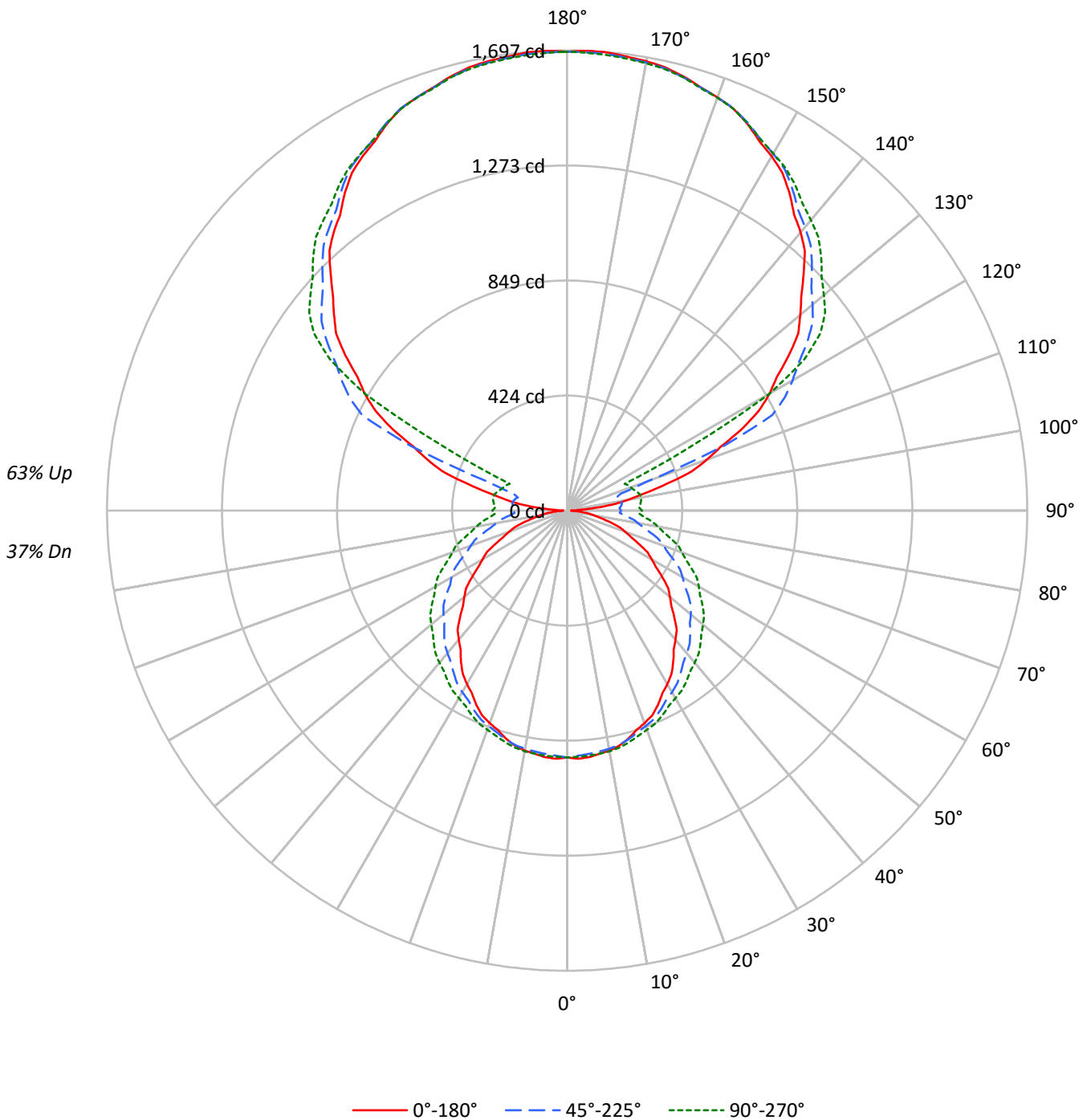
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331611-935

CATALOG NUMBER: S122DIW-S1005D1440U935-4F0-1E-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°	14699	14699	14699
5°	14772	14150	14097
10°	14679	13733	13578
15°	14477	13289	13032
20°	14222	12815	12506
25°	13968	12358	12028
30°	13612	11889	11549
35°	13253	11434	11211
40°	12874	11047	10874
45°	12515	10702	10584
50°	12128	10388	10300
55°	11724	10052	10011
60°	11226	9702	9705
65°	10711	9294	9342
70°	10136	8856	8949
75°	9394	8423	8587
80°	8224	7984	8220
85°	7107	7603	7937



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.3	1.0
10°-20°	247.4	2.9
20°-30°	374.9	4.4
30°-40°	456.6	5.4
40°-50°	491.2	5.8
50°-60°	477.0	5.7
60°-70°	416.5	4.9
70°-80°	320.7	3.8
80°-90°	219.4	2.6
90°-100°	204.7	2.4
100°-110°	315.3	3.7
110°-120°	624.9	7.4
120°-130°	953.4	11.3
130°-140°	988.2	11.7
140°-150°	905.8	10.7
150°-160°	726.0	8.6
160°-170°	467.8	5.5
170°-180°	161.0	1.9
0°-30°	708.5	8.4
0°-40°	1165.2	13.8
0°-60°	2133.4	25.3
0°-90°	3090.0	36.6
90°-120°	1144.9	13.6
90°-150°	3992.2	47.3
90°-180°	5347.0	63.4
0°-180°	8437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	913	909	901	909	908	87
15°	871	873	874	885	884	245
25°	792	801	813	828	833	364
35°	682	705	730	758	768	426
45°	560	596	641	681	695	432
55°	429	478	545	591	610	383
65°	293	358	435	488	507	291
75°	162	237	321	375	394	172
85°	48	129	214	267	288	51
90°	14	105	199	255	276	13
95°	90	115	200	253	270	106
105°	379	435	188	246	267	405
115°	709	748	835	332	234	698
125°	998	1017	1080	1122	1139	890
135°	1233	1253	1277	1315	1325	953
145°	1429	1429	1449	1464	1466	894
155°	1574	1564	1577	1584	1575	725
165°	1658	1651	1654	1662	1654	468
175°	1696	1688	1690	1697	1686	161
180°	1692	1692	1692	1692	1692	



TEST NUMBER: P331611-935

CATALOG NUMBER: S122DIW-S1005D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	915.8	915.1	914.3	913.6	912.9	911.7	910.1	908.4	906.8	905.2	906.4
5°	913.1	912.2	911.4	910.4	909.6	908.3	906.5	904.7	903.0	901.2	903.0
7.5°	904.9	904.3	903.7	903.2	902.6	901.6	900.3	898.9	897.6	896.2	898.3
10°	898.6	898.0	897.4	896.8	896.2	895.5	894.7	893.7	892.9	892.0	894.3
12.5°	888.0	888.1	888.3	888.4	888.5	888.2	887.6	886.9	886.3	885.6	888.0
15°	870.9	871.5	872.0	872.6	873.2	873.5	873.5	873.5	873.5	873.5	876.2
17.5°	848.7	850.0	851.2	852.4	853.6	854.7	855.7	856.6	857.6	858.5	861.3
20°	834.0	835.4	836.9	838.4	839.8	841.1	842.3	843.4	844.6	845.8	849.0
22.5°	818.1	819.8	821.5	823.2	824.9	826.6	828.2	829.8	831.5	833.1	836.4
25°	791.7	793.8	795.8	797.9	800.0	802.3	804.9	807.5	810.2	812.8	816.3
27.5°	760.0	763.4	766.7	770.1	773.4	776.6	779.7	782.8	785.9	789.1	793.5
30°	738.9	742.7	746.6	750.4	754.1	758.0	761.8	765.6	769.4	773.3	777.9
32.5°	715.7	720.0	724.3	728.6	732.8	737.2	741.8	746.2	750.8	755.3	760.7
35°	682.2	687.2	692.2	697.2	702.1	707.4	713.0	718.5	724.1	729.7	736.2
37.5°	645.8	651.5	657.3	663.0	668.7	675.2	682.4	689.7	696.9	704.1	711.3
40°	621.5	627.9	634.4	640.8	647.3	654.4	662.4	670.3	678.2	686.1	693.8
42.5°	598.3	604.7	611.1	617.6	624.1	631.8	640.9	650.1	659.1	668.2	676.5
45°	559.5	567.4	575.3	583.2	591.2	600.2	610.5	620.8	631.0	641.3	650.4
47.5°	521.2	529.9	538.5	547.1	555.7	566.0	578.1	590.0	602.1	614.1	623.6
50°	494.8	503.9	513.0	522.1	531.2	542.3	555.5	568.7	581.9	595.1	605.1
52.5°	469.5	479.1	488.6	498.2	507.7	519.4	533.3	547.3	561.1	575.1	585.2
55°	428.9	439.4	450.0	460.5	471.1	484.0	499.2	514.4	529.7	544.9	555.5
57.5°	388.7	400.6	412.5	424.5	436.4	450.0	465.6	481.1	496.7	512.2	523.6
60°	360.2	372.8	385.5	398.0	410.7	425.3	442.0	458.7	475.4	492.1	503.3
62.5°	334.9	347.9	361.0	374.1	387.2	402.1	418.8	435.5	452.3	469.0	480.8
65°	292.9	307.3	321.7	336.0	350.4	366.3	383.6	400.8	418.1	435.4	447.5
67.5°	254.4	269.4	284.4	299.5	314.4	330.8	348.5	366.3	383.9	401.7	413.8
70°	227.0	242.2	257.4	272.7	287.9	304.6	322.9	341.0	359.2	377.4	389.9
72.5°	201.6	217.3	233.1	248.7	264.5	281.5	300.0	318.4	336.8	355.2	367.6
75°	162.3	178.7	195.1	211.5	228.0	245.6	264.3	283.1	301.9	320.6	333.2
77.5°	124.3	141.5	158.7	175.8	193.0	211.1	230.2	249.3	268.3	287.4	300.0
80°	98.9	116.8	134.7	152.7	170.5	189.0	208.0	227.1	246.2	265.2	277.5
82.5°	77.8	95.5	113.1	130.8	148.4	166.9	186.2	205.5	224.8	244.1	256.4
85°	47.5	65.7	83.9	102.0	120.2	138.7	157.5	176.2	195.0	213.8	226.1
87.5°	26.1	44.2	62.3	80.3	98.4	117.0	136.2	155.4	174.6	193.8	206.1
90°	14.4	34.4	54.4	74.4	94.5	114.9	135.9	156.8	177.7	198.6	211.7
92.5°	36.9	52.4	68.0	83.6	99.1	116.5	135.6	154.8	173.9	193.1	205.3
95°	90.1	95.0	99.8	104.5	109.3	121.5	141.0	160.5	180.0	199.5	212.0
97.5°	167.2	154.1	141.1	128.0	115.0	119.2	140.4	161.7	183.0	204.3	216.3
100°	226.0	199.6	173.1	146.7	120.3	117.5	138.6	159.6	180.7	201.7	214.8
102.5°	289.6	291.6	293.6	295.7	297.6	287.3	264.6	241.8	219.0	196.3	209.7
105°	378.8	395.5	412.2	428.9	445.6	424.3	365.3	306.3	247.2	188.2	201.5
107.5°	482.2	495.6	508.9	522.4	535.7	505.2	430.7	356.2	281.7	207.2	214.0
110°	547.8	559.3	570.9	582.5	594.1	567.7	503.4	439.2	374.9	310.6	292.8



TEST NUMBER: P331611-935

CATALOG NUMBER: S122DIW-S1005D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	610.4	620.4	630.4	640.4	650.4	652.6	646.8	641.0	635.2	629.5	539.6
115°	709.4	717.2	725.1	733.0	740.8	754.8	774.7	794.7	814.7	834.7	717.6
117.5°	796.5	803.7	811.1	818.3	825.6	837.7	854.5	871.4	888.3	905.2	883.4
120°	861.2	866.4	871.7	876.9	882.2	893.1	909.7	926.3	943.0	959.6	971.1
122.5°	916.0	920.8	925.6	930.3	935.0	945.6	962.0	978.4	994.7	1011.1	1021.0
125°	998.2	1001.8	1005.3	1008.8	1012.4	1021.4	1036.0	1050.5	1065.1	1079.6	1089.4
127.5°	1073.8	1077.5	1081.2	1084.8	1088.4	1095.9	1107.3	1118.8	1130.1	1141.6	1151.7
130°	1121.9	1125.9	1130.0	1134.0	1138.2	1144.7	1153.9	1163.0	1172.2	1181.3	1191.4
132.5°	1170.9	1174.2	1177.7	1181.1	1184.5	1190.1	1197.8	1205.6	1213.3	1221.1	1230.4
135°	1233.2	1237.6	1241.9	1246.3	1250.6	1255.5	1260.8	1266.3	1271.6	1277.0	1285.9
137.5°	1297.6	1300.6	1303.6	1306.6	1309.6	1313.1	1317.2	1321.2	1325.3	1329.4	1337.5
140°	1339.7	1341.6	1343.5	1345.4	1347.3	1350.0	1353.6	1357.2	1360.7	1364.3	1371.5
142.5°	1375.0	1376.7	1378.4	1380.0	1381.6	1384.3	1387.8	1391.4	1394.9	1398.4	1404.5
145°	1429.1	1428.7	1428.5	1428.2	1428.0	1430.1	1434.8	1439.4	1444.0	1448.6	1452.3
147.5°	1477.3	1476.3	1475.2	1474.2	1473.2	1474.9	1479.5	1484.1	1488.7	1493.2	1494.9
150°	1508.6	1506.8	1504.9	1503.0	1501.0	1502.3	1506.6	1511.0	1515.3	1519.7	1521.3
152.5°	1535.1	1533.0	1530.9	1528.7	1526.6	1527.6	1531.7	1535.9	1540.0	1544.1	1545.8
155°	1573.6	1571.1	1568.7	1566.2	1563.7	1564.2	1567.5	1570.7	1574.0	1577.2	1578.8
157.5°	1603.7	1601.6	1599.6	1597.5	1595.4	1595.5	1597.8	1600.1	1602.3	1604.6	1606.5
160°	1621.3	1619.6	1618.1	1616.4	1614.8	1614.8	1616.4	1618.1	1619.6	1621.3	1622.9
162.5°	1636.9	1635.4	1633.7	1632.1	1630.5	1630.3	1631.8	1633.1	1634.6	1636.0	1637.9
165°	1658.0	1656.4	1654.8	1653.1	1651.5	1651.1	1651.9	1652.7	1653.6	1654.3	1656.3
167.5°	1673.7	1672.1	1670.4	1668.8	1667.2	1666.7	1667.5	1668.3	1669.0	1669.8	1671.7
170°	1682.6	1680.9	1679.3	1677.7	1676.0	1675.4	1676.0	1676.5	1677.1	1677.7	1679.6
172.5°	1688.4	1686.8	1685.1	1683.5	1681.9	1681.4	1681.9	1682.4	1683.0	1683.5	1685.4
175°	1696.0	1694.1	1692.2	1690.3	1688.4	1687.7	1688.2	1688.8	1689.4	1689.9	1691.8
177.5°	1697.2	1695.7	1694.2	1692.6	1691.1	1690.5	1690.7	1690.9	1691.1	1691.3	1692.9
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3



TEST NUMBER: P331611-935

CATALOG NUMBER: S122DIW-S1005D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	907.5	908.7	909.9	910.2	909.7	909.3	908.8	908.4
5°	904.7	906.5	908.3	909.0	908.7	908.4	908.1	907.8
7.5°	900.4	902.6	904.7	905.6	905.3	905.0	904.7	904.4
10°	896.6	899.1	901.4	902.4	902.1	901.8	901.6	901.2
12.5°	890.4	892.7	895.0	896.0	895.8	895.4	895.2	894.9
15°	878.8	881.4	884.1	885.3	884.9	884.7	884.3	884.1
17.5°	864.0	866.8	869.5	870.9	870.9	870.9	870.9	870.9
20°	852.2	855.5	858.7	860.3	860.3	860.3	860.3	860.3
22.5°	839.6	842.8	846.0	847.9	848.3	848.9	849.3	849.8
25°	819.8	823.4	826.9	829.1	830.0	830.9	831.7	832.6
27.5°	798.0	802.5	806.9	809.4	810.1	810.7	811.4	812.0
30°	782.6	787.3	792.0	794.8	795.7	796.5	797.5	798.3
32.5°	766.1	771.5	776.9	780.3	782.0	783.5	785.1	786.7
35°	742.6	749.1	755.5	759.7	761.8	763.9	765.9	767.9
37.5°	718.4	725.6	732.7	737.4	739.5	741.8	743.9	746.1
40°	701.4	709.0	716.6	721.8	724.4	727.0	729.7	732.4
42.5°	684.8	693.2	701.5	707.0	709.6	712.3	714.9	717.6
45°	659.4	668.6	677.6	683.6	686.6	689.5	692.4	695.3
47.5°	633.1	642.6	652.1	658.5	661.7	665.0	668.1	671.4
50°	615.0	625.0	635.0	641.6	644.8	648.0	651.3	654.4
52.5°	595.5	605.6	615.9	622.7	626.1	629.6	633.1	636.5
55°	566.1	576.6	587.2	594.3	598.1	602.0	605.8	609.6
57.5°	535.0	546.4	557.8	565.3	569.2	573.1	577.0	580.8
60°	514.4	525.6	536.7	544.4	548.5	552.6	556.7	560.8
62.5°	492.7	504.5	516.3	524.2	528.1	531.9	535.8	539.7
65°	459.5	471.5	483.5	491.5	495.2	499.0	502.9	506.7
67.5°	425.9	438.1	450.2	458.3	462.3	466.2	470.3	474.2
70°	402.6	415.2	427.8	435.8	439.4	442.9	446.4	450.0
72.5°	380.0	392.4	404.7	413.0	417.2	421.5	425.7	429.9
75°	345.9	358.4	371.1	379.3	383.1	386.9	390.7	394.5
77.5°	312.5	325.0	337.6	345.9	350.0	354.1	358.3	362.3
80°	289.8	302.2	314.5	322.7	326.8	330.9	335.0	339.1
82.5°	268.7	281.0	293.3	301.4	305.3	309.2	313.1	316.9
85°	238.4	250.7	263.0	271.2	275.3	279.5	283.5	287.7
87.5°	218.3	230.6	242.8	250.8	254.7	258.6	262.4	266.3
90°	224.8	237.9	251.1	259.6	263.6	267.7	271.8	275.9
92.5°	217.5	229.7	241.9	249.9	253.7	257.6	261.5	265.3
95°	224.5	237.0	249.5	257.4	260.6	263.9	267.2	270.4
97.5°	228.2	240.1	252.1	259.9	263.7	267.5	271.3	275.1
100°	227.8	240.8	253.8	262.3	266.0	269.8	273.5	277.3
102.5°	223.2	236.7	250.1	258.8	262.8	266.8	270.8	274.7
105°	214.6	227.9	241.2	249.9	254.3	258.6	262.9	267.3
107.5°	220.8	227.6	234.5	240.0	244.4	248.7	253.0	257.3
110°	275.0	257.1	239.3	232.6	236.9	241.2	245.5	249.8



TEST NUMBER: P331611-935

CATALOG NUMBER: S122DIW-S1005D1440U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	449.7	359.8	269.9	227.0	231.1	235.2	239.3	243.4
115°	600.3	483.1	365.9	299.1	282.8	266.4	250.0	233.7
117.5°	861.6	839.8	818.0	776.4	715.1	653.7	592.2	530.8
120°	982.6	994.0	1005.5	994.5	961.0	927.5	894.0	860.5
122.5°	1031.0	1040.9	1050.9	1053.6	1049.2	1044.8	1040.5	1036.1
125°	1099.2	1109.1	1118.9	1125.5	1129.0	1132.5	1135.9	1139.4
127.5°	1161.7	1171.7	1181.8	1188.2	1190.9	1193.7	1196.4	1199.2
130°	1201.4	1211.4	1221.4	1227.5	1229.6	1231.7	1233.7	1235.8
132.5°	1239.8	1249.1	1258.4	1264.2	1266.3	1268.3	1270.4	1272.5
135°	1294.8	1303.6	1312.5	1317.8	1319.7	1321.5	1323.3	1325.1
137.5°	1345.5	1353.6	1361.6	1366.1	1367.3	1368.3	1369.4	1370.5
140°	1378.6	1385.8	1392.9	1396.6	1397.1	1397.5	1397.8	1398.3
142.5°	1410.4	1416.4	1422.4	1425.5	1425.6	1425.8	1426.0	1426.2
145°	1456.0	1459.7	1463.3	1465.2	1465.2	1465.4	1465.5	1465.6
147.5°	1496.5	1498.1	1499.8	1500.4	1499.9	1499.5	1499.1	1498.7
150°	1522.9	1524.6	1526.2	1526.3	1525.0	1523.6	1522.2	1520.9
152.5°	1547.4	1549.0	1550.7	1550.6	1548.8	1547.0	1545.2	1543.4
155°	1580.5	1582.1	1583.7	1583.5	1581.3	1579.2	1576.9	1574.8
157.5°	1608.3	1610.2	1612.1	1611.9	1609.8	1607.7	1605.5	1603.4
160°	1624.5	1626.2	1627.8	1627.7	1625.8	1623.8	1622.0	1620.1
162.5°	1639.7	1641.6	1643.4	1643.1	1640.8	1638.5	1636.2	1633.8
165°	1658.2	1660.1	1662.0	1662.0	1660.1	1658.2	1656.3	1654.3
167.5°	1673.6	1675.5	1677.4	1677.1	1674.7	1672.2	1669.8	1667.3
170°	1681.4	1683.3	1685.2	1685.0	1682.6	1680.1	1677.7	1675.2
172.5°	1687.3	1689.2	1691.1	1690.8	1688.4	1685.9	1683.5	1681.0
175°	1693.7	1695.6	1697.5	1697.1	1694.4	1691.6	1688.9	1686.2
177.5°	1694.4	1695.9	1697.5	1697.2	1695.2	1693.3	1691.3	1689.4
180°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3

(END OF REPORT)