

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: P331848-840

Luminaire Tested: **S122RDIW-S1005D435U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331848-840
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: S122RDIW-S1005D435U840-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5035.5 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

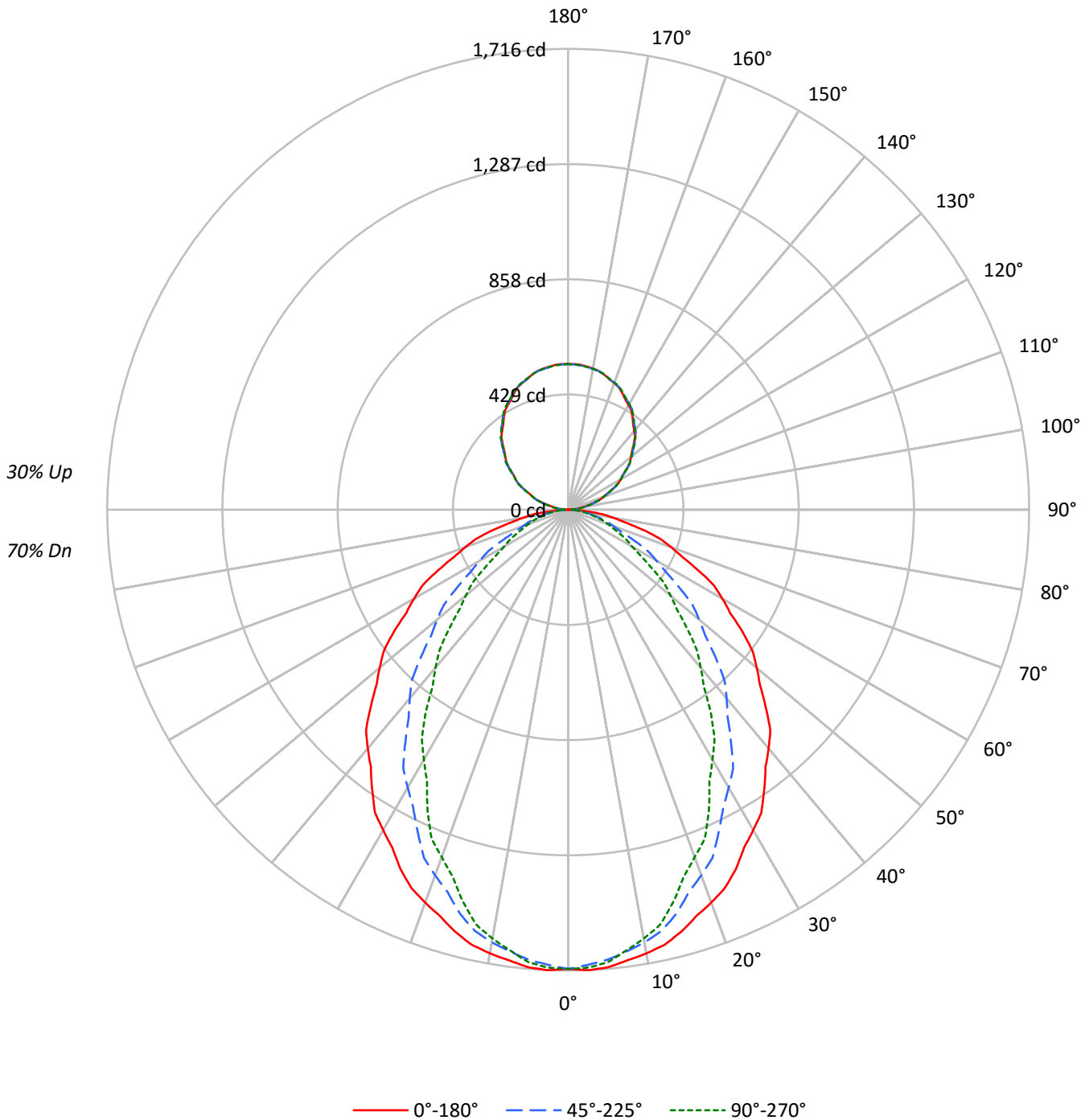
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331848-840

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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	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	74	74	74	74	74	74	74	74	74	74	74	70																	
1	103	99	95	92	97	94	90	87	84	81	79	75	73	71	67	65	64	64	64	64	64	64	64	64	64	64	64	64	60																	
2	94	87	81	76	89	83	77	73	74	70	67	67	63	61	60	57	55	55	55	55	55	55	55	55	55	55	55	55	52																	
3	86	77	70	64	82	73	67	62	66	61	57	60	56	52	53	50	48	48	48	48	48	48	48	48	48	48	48	48	44																	
4	80	69	61	55	75	66	58	53	59	54	49	54	49	45	48	45	42	42	42	42	42	42	42	42	42	42	42	42	39																	
5	73	62	54	48	69	59	52	46	54	48	43	49	44	40	44	40	37	37	37	37	37	37	37	37	37	37	37	37	34																	
6	68	56	48	42	64	53	46	41	49	42	38	44	39	35	40	36	33	33	33	33	33	33	33	33	33	33	33	33	30																	
7	63	51	43	37	60	49	41	36	44	38	34	40	35	32	37	33	29	29	29	29	29	29	29	29	29	29	29	29	27																	
8	59	46	39	33	56	44	37	32	41	35	30	37	32	28	34	30	27	27	27	27	27	27	27	27	27	27	27	27	24																	
9	55	43	35	30	52	41	34	29	38	32	27	34	29	26	31	27	24	24	24	24	24	24	24	24	24	24	24	24	22																	
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	29	25	22	22	22	22	22	22	22	22	22	22	22	22	20																	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	27611	27611	27611
5°	27716	27266	27417
10°	27506	26820	26591
15°	27189	26024	25275
20°	26751	24890	23639
25°	26302	23599	22057
30°	25682	22275	20025
35°	25074	20834	18242
40°	24464	19344	16179
45°	23749	17671	14312
50°	23016	15978	12479
55°	22261	14159	10716
60°	21390	12245	8896
65°	20397	10288	8103
70°	19218	8478	7449
75°	17767	7723	6949
80°	15676	6908	6332
85°	12338	5446	5446



TEST NUMBER: P331848-840

CATALOG NUMBER: S122RDIW-S1005D435U840-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.1	3.2
10°-20°	439.5	8.7
20°-30°	617.2	12.3
30°-40°	673.0	13.4
40°-50°	618.8	12.3
50°-60°	486.0	9.7
60°-70°	316.9	6.3
70°-80°	163.4	3.2
80°-90°	44.5	0.9
90°-100°	34.4	0.7
100°-110°	106.7	2.1
110°-120°	182.4	3.6
120°-130°	239.9	4.8
130°-140°	269.2	5.3
140°-150°	263.9	5.2
150°-160°	221.4	4.4
160°-170°	146.8	2.9
170°-180°	51.3	1.0
0°-30°	1216.8	24.2
0°-40°	1889.8	37.5
0°-60°	2994.7	59.5
0°-90°	3519.5	69.9
90°-120°	323.4	6.4
90°-150°	1096.4	21.8
90°-180°	1516.0	30.1
0°-180°	5035.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1710	1710	1710	1710	1710	
5°	1710	1702	1682	1695	1692	162
15°	1627	1608	1557	1528	1512	458
25°	1476	1424	1325	1264	1238	679
35°	1272	1190	1057	963	926	796
45°	1040	933	774	668	627	803
55°	791	668	503	414	381	706
65°	534	408	269	219	212	529
75°	285	180	124	114	111	301
85°	67	36	29	29	29	78
90°	0	6	16	15	16	4
95°	24	28	29	29	28	27
105°	98	100	101	102	102	104
115°	183	186	185	184	183	181
125°	266	270	269	268	267	238
135°	345	349	350	350	349	266
145°	418	421	424	424	423	261
155°	478	480	481	483	482	220
165°	520	520	520	523	521	147
175°	541	540	539	542	540	51
180°	542	542	542	542	542	



TEST NUMBER: P331848-840

CATALOG NUMBER: S122RDIW-S1005D435U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1716.4	1715.0	1713.5	1712.2	1710.8	1708.6	1705.6	1702.6	1699.6	1696.6	1699.3
5°	1710.1	1708.4	1706.7	1705.0	1703.2	1700.2	1695.7	1691.2	1686.8	1682.3	1685.4
7.5°	1692.5	1690.4	1688.3	1686.1	1683.9	1680.3	1675.1	1669.8	1664.7	1659.4	1660.3
10°	1677.7	1675.3	1672.8	1670.4	1668.0	1663.3	1656.5	1649.6	1642.7	1635.9	1634.9
12.5°	1659.1	1656.1	1653.1	1650.2	1647.3	1641.3	1632.5	1623.8	1615.0	1606.2	1604.3
15°	1626.6	1622.8	1619.0	1615.2	1611.4	1603.7	1592.1	1580.3	1568.6	1556.9	1550.4
17.5°	1586.6	1580.8	1575.1	1569.3	1563.6	1553.2	1538.1	1523.2	1508.1	1493.2	1485.4
20°	1556.9	1550.0	1543.2	1536.3	1529.4	1517.4	1500.2	1483.0	1465.8	1448.6	1440.0
22.5°	1524.7	1517.0	1509.3	1501.7	1493.9	1480.4	1461.0	1441.6	1422.2	1402.8	1391.7
25°	1476.4	1465.4	1454.4	1443.4	1432.4	1415.6	1392.9	1370.2	1347.5	1324.7	1310.7
27.5°	1418.3	1406.3	1394.3	1382.4	1370.4	1351.6	1326.1	1300.4	1274.9	1249.3	1232.8
30°	1377.5	1364.3	1351.3	1338.2	1325.1	1304.8	1277.3	1249.8	1222.3	1194.8	1177.2
32.5°	1337.8	1322.5	1307.3	1292.0	1276.7	1255.1	1227.0	1198.9	1170.8	1142.8	1122.8
35°	1272.1	1254.7	1237.1	1219.5	1202.0	1178.1	1147.8	1117.6	1087.3	1057.0	1035.4
37.5°	1206.6	1187.3	1168.0	1148.7	1129.5	1103.8	1071.5	1039.3	1006.9	974.7	950.9
40°	1160.7	1140.1	1119.4	1098.8	1078.2	1051.2	1017.8	984.5	951.1	917.8	893.3
42.5°	1113.7	1092.0	1070.3	1048.4	1026.7	998.7	964.2	929.7	895.2	860.8	835.6
45°	1040.1	1016.9	993.9	970.9	947.9	918.3	882.1	846.1	809.9	773.9	749.4
47.5°	968.2	943.8	919.4	894.9	870.5	839.7	802.4	765.1	727.8	690.5	666.3
50°	916.3	891.8	867.4	842.9	818.5	787.4	749.6	711.8	673.9	636.1	612.4
52.5°	865.5	839.9	814.5	788.9	763.4	732.2	695.1	658.1	621.1	584.1	561.2
55°	790.8	764.1	737.2	710.3	683.6	651.6	614.4	577.2	540.2	503.0	482.3
57.5°	714.4	686.9	659.3	631.9	604.3	572.7	537.0	501.3	465.6	429.9	411.0
60°	662.4	634.9	607.3	579.9	552.3	520.9	485.4	450.0	414.5	379.2	361.6
62.5°	611.7	584.1	556.6	529.1	501.6	470.9	437.2	403.3	369.6	335.9	319.1
65°	533.9	506.0	478.3	450.4	422.5	393.1	362.1	331.2	300.2	269.3	257.6
67.5°	459.0	431.4	403.7	376.1	348.4	320.6	292.9	265.0	237.1	209.2	203.9
70°	407.1	380.2	353.4	326.6	299.7	274.5	250.7	227.0	203.3	179.6	176.1
72.5°	357.5	331.7	306.1	280.3	254.6	232.2	213.2	194.1	175.0	156.0	153.1
75°	284.8	260.6	236.6	212.6	188.4	170.6	158.9	147.2	135.5	123.8	121.4
77.5°	213.3	192.2	171.1	150.0	128.8	115.4	109.8	104.1	98.5	92.9	91.5
80°	168.6	151.2	133.6	116.0	98.6	88.1	84.6	81.2	77.8	74.3	72.9
82.5°	127.8	114.1	100.5	86.7	73.1	65.0	62.7	60.4	58.1	55.7	54.9
85°	66.6	59.3	52.1	44.8	37.7	33.5	32.5	31.5	30.4	29.4	29.4
87.5°	19.9	18.0	16.0	14.0	12.1	11.3	11.8	12.2	12.6	13.1	12.8
90°	0.5	1.7	2.9	4.1	5.4	7.1	9.3	11.5	13.7	16.1	15.9
92.5°	8.2	9.1	9.9	10.8	11.7	12.4	12.9	13.5	14.0	14.5	14.5
95°	23.8	24.8	25.9	26.9	27.9	28.5	28.7	28.9	29.1	29.3	29.3
97.5°	43.4	44.3	45.2	46.2	47.1	47.7	48.1	48.5	48.9	49.2	49.2
100°	58.1	58.9	59.7	60.6	61.4	61.9	62.2	62.5	62.8	63.1	63.1
102.5°	73.5	74.1	74.7	75.4	76.0	76.6	77.0	77.4	77.8	78.2	78.3
105°	98.4	98.7	99.0	99.3	99.6	99.9	100.1	100.3	100.5	100.7	100.9
107.5°	123.4	123.9	124.3	124.8	125.2	125.4	125.4	125.4	125.4	125.4	125.5
110°	139.6	140.2	140.8	141.4	142.0	142.3	142.3	142.3	142.3	142.3	142.3



TEST NUMBER: P331848-840

CATALOG NUMBER: S122RDIW-S1005D435U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	157.1	157.7	158.3	159.0	159.6	159.9	159.8	159.7	159.6	159.5	159.3
115°	183.0	183.6	184.2	184.8	185.4	185.6	185.4	185.2	185.0	184.8	184.7
117.5°	208.8	209.6	210.5	211.3	212.1	212.2	211.7	211.1	210.5	210.0	209.6
120°	226.0	226.8	227.6	228.4	229.2	229.2	228.4	227.6	226.8	226.0	226.0
122.5°	241.8	242.8	243.7	244.7	245.7	245.9	245.3	244.7	244.2	243.6	243.4
125°	266.3	267.2	268.1	269.0	269.9	270.2	269.9	269.6	269.3	269.0	268.7
127.5°	290.1	291.3	292.5	293.7	294.8	295.2	294.9	294.5	294.1	293.8	293.4
130°	305.2	306.5	307.8	309.1	310.4	311.0	310.8	310.6	310.4	310.2	310.0
132.5°	322.0	323.1	324.2	325.3	326.3	326.9	326.9	327.0	327.0	327.0	326.6
135°	344.6	345.7	346.8	347.9	349.0	349.6	349.8	350.0	350.2	350.4	350.3
137.5°	368.2	369.1	370.0	370.9	371.8	372.4	372.7	373.0	373.2	373.5	373.4
140°	382.5	383.4	384.4	385.3	386.2	386.9	387.4	387.9	388.4	388.9	388.9
142.5°	397.2	398.1	399.0	399.9	400.8	401.4	401.7	402.1	402.4	402.8	402.9
145°	418.2	418.9	419.6	420.3	421.0	421.7	422.3	422.9	423.5	424.1	424.2
147.5°	437.0	437.8	438.7	439.5	440.4	441.0	441.4	441.8	442.2	442.6	442.8
150°	449.8	450.4	451.0	451.6	452.2	452.7	453.1	453.5	453.9	454.3	454.6
152.5°	461.1	461.7	462.3	462.9	463.5	464.1	464.5	465.0	465.5	466.1	466.5
155°	478.1	478.4	478.7	479.1	479.4	479.7	480.0	480.3	480.6	480.9	481.4
157.5°	492.7	492.9	493.1	493.3	493.5	493.6	493.8	494.0	494.2	494.4	495.1
160°	501.5	501.7	501.9	502.1	502.3	502.4	502.5	502.6	502.7	502.8	503.4
162.5°	509.5	509.6	509.6	509.6	509.7	509.8	509.9	510.0	510.1	510.2	510.8
165°	520.2	520.1	520.0	519.9	519.8	519.8	519.8	519.8	519.8	519.8	520.5
167.5°	529.2	528.9	528.6	528.3	528.0	527.8	527.8	527.8	527.8	527.8	528.5
170°	533.9	533.6	533.3	533.0	532.7	532.5	532.4	532.3	532.2	532.1	532.8
172.5°	537.2	536.9	536.6	536.3	536.0	535.8	535.7	535.6	535.5	535.4	536.1
175°	541.3	541.0	540.7	540.4	540.1	539.8	539.6	539.4	539.2	539.0	539.7
177.5°	542.9	542.7	542.4	542.2	541.9	541.7	541.6	541.4	541.2	541.1	541.6
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2



TEST NUMBER: P331848-840

CATALOG NUMBER: S122RDIW-S1005D435U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1	1710.1
2.5°	1702.0	1704.8	1707.6	1708.6	1708.1	1707.6	1707.0	1706.5
5°	1688.5	1691.6	1694.7	1695.7	1694.7	1693.6	1692.6	1691.6
7.5°	1661.1	1662.0	1662.9	1662.5	1660.7	1658.9	1657.2	1655.4
10°	1633.8	1632.7	1631.7	1630.2	1628.1	1626.1	1624.0	1621.9
12.5°	1602.5	1600.5	1598.7	1596.1	1592.7	1589.2	1585.8	1582.4
15°	1543.9	1537.3	1530.8	1525.8	1522.4	1518.9	1515.5	1512.1
17.5°	1477.6	1469.9	1462.1	1455.2	1449.4	1443.4	1437.4	1431.6
20°	1431.4	1422.8	1414.2	1406.1	1398.6	1391.0	1383.4	1375.8
22.5°	1380.7	1369.6	1358.5	1350.1	1344.5	1338.9	1333.2	1327.6
25°	1296.6	1282.5	1268.4	1258.8	1253.5	1248.4	1243.2	1238.1
27.5°	1216.4	1199.9	1183.5	1171.1	1163.0	1154.8	1146.6	1138.4
30°	1159.7	1142.2	1124.6	1111.3	1102.0	1092.7	1083.4	1074.1
32.5°	1102.8	1082.8	1062.7	1048.3	1039.7	1030.9	1022.1	1013.4
35°	1013.7	992.1	970.4	955.7	948.2	940.6	933.0	925.5
37.5°	927.0	903.1	879.2	862.9	854.3	845.7	837.0	828.3
40°	868.9	844.4	820.1	803.4	794.5	785.5	776.6	767.6
42.5°	810.3	785.1	759.8	742.9	734.2	725.5	716.9	708.2
45°	725.0	700.5	676.1	659.8	651.6	643.3	635.0	626.8
47.5°	642.0	617.7	593.4	577.5	570.1	562.6	555.0	547.5
50°	588.7	564.9	541.2	525.6	518.5	511.2	504.0	496.8
52.5°	538.3	515.3	492.5	477.7	471.0	464.3	457.7	451.0
55°	461.7	441.1	420.4	406.9	400.3	393.7	387.3	380.7
57.5°	392.1	373.1	354.3	342.0	336.6	331.0	325.6	320.0
60°	344.1	326.6	309.0	297.5	292.0	286.5	280.9	275.5
62.5°	302.5	285.7	269.0	258.9	255.7	252.4	249.0	245.8
65°	245.9	234.2	222.5	216.1	215.1	214.1	213.1	212.1
67.5°	198.5	193.2	187.7	184.5	183.5	182.4	181.3	180.2
70°	172.7	169.3	165.8	163.4	162.0	160.6	159.3	157.8
72.5°	150.3	147.3	144.4	142.6	141.8	141.0	140.1	139.3
75°	119.0	116.6	114.2	112.8	112.5	112.1	111.8	111.4
77.5°	90.1	88.8	87.4	86.3	85.8	85.3	84.7	84.2
80°	71.5	70.2	68.8	68.1	68.1	68.1	68.1	68.1
82.5°	54.0	53.2	52.4	52.0	52.0	52.0	52.0	52.0
85°	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
87.5°	12.5	12.1	11.8	11.7	11.7	11.7	11.7	11.8
90°	15.7	15.5	15.2	15.1	15.2	15.3	15.5	15.6
92.5°	14.6	14.6	14.7	14.7	14.7	14.7	14.8	14.8
95°	29.3	29.3	29.3	29.2	29.0	28.8	28.6	28.4
97.5°	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2
100°	63.1	63.1	63.1	63.1	63.0	62.9	62.8	62.7
102.5°	78.3	78.4	78.5	78.5	78.4	78.3	78.2	78.1
105°	101.1	101.3	101.5	101.6	101.6	101.6	101.6	101.6
107.5°	125.6	125.7	125.8	125.6	125.1	124.6	124.2	123.7
110°	142.3	142.3	142.3	142.1	141.8	141.5	141.2	140.9



TEST NUMBER: P331848-840

CATALOG NUMBER: S122RDIW-S1005D435U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	159.1	158.8	158.5	158.2	158.0	157.8	157.6	157.4
115°	184.6	184.5	184.4	184.2	183.9	183.6	183.3	183.0
117.5°	209.4	209.1	208.9	208.6	208.3	208.0	207.7	207.4
120°	226.0	226.0	226.0	225.9	225.6	225.3	225.0	224.7
122.5°	243.1	242.9	242.6	242.4	242.2	242.0	241.7	241.5
125°	268.4	268.1	267.8	267.6	267.5	267.4	267.3	267.2
127.5°	293.0	292.7	292.3	292.0	291.5	291.2	290.9	290.6
130°	309.8	309.6	309.4	309.1	308.7	308.3	307.9	307.5
132.5°	326.2	325.7	325.3	324.9	324.6	324.2	323.9	323.6
135°	350.2	350.1	350.0	349.8	349.5	349.2	348.9	348.6
137.5°	373.3	373.2	373.2	372.9	372.5	372.1	371.7	371.3
140°	388.9	388.9	388.9	388.7	388.3	387.9	387.5	387.1
142.5°	402.9	403.0	403.1	402.9	402.5	402.1	401.7	401.3
145°	424.3	424.4	424.5	424.3	423.9	423.5	423.1	422.7
147.5°	443.0	443.3	443.5	443.4	443.0	442.6	442.2	441.9
150°	454.9	455.2	455.6	455.6	455.2	454.9	454.6	454.3
152.5°	466.8	467.2	467.6	467.6	467.2	466.8	466.5	466.1
155°	481.9	482.4	482.9	483.0	482.7	482.4	482.1	481.8
157.5°	495.7	496.4	497.2	497.3	496.8	496.2	495.8	495.3
160°	504.0	504.6	505.2	505.3	504.9	504.5	504.1	503.7
162.5°	511.5	512.2	512.9	513.0	512.5	512.0	511.5	511.1
165°	521.2	521.9	522.6	522.7	522.2	521.7	521.2	520.7
167.5°	529.2	529.9	530.6	530.7	530.1	529.6	529.1	528.6
170°	533.5	534.2	534.9	535.0	534.4	533.8	533.2	532.6
172.5°	536.8	537.6	538.3	538.3	537.7	537.0	536.4	535.8
175°	540.4	541.1	541.8	541.9	541.3	540.7	540.1	539.5
177.5°	542.1	542.5	543.0	543.0	542.5	542.1	541.6	541.1
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2

(END OF REPORT)