

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: P331602-840

Luminaire Tested: **S122DIW-S1005D970U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331602-840
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: S122DIW-S1005D970U840-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7488.9 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

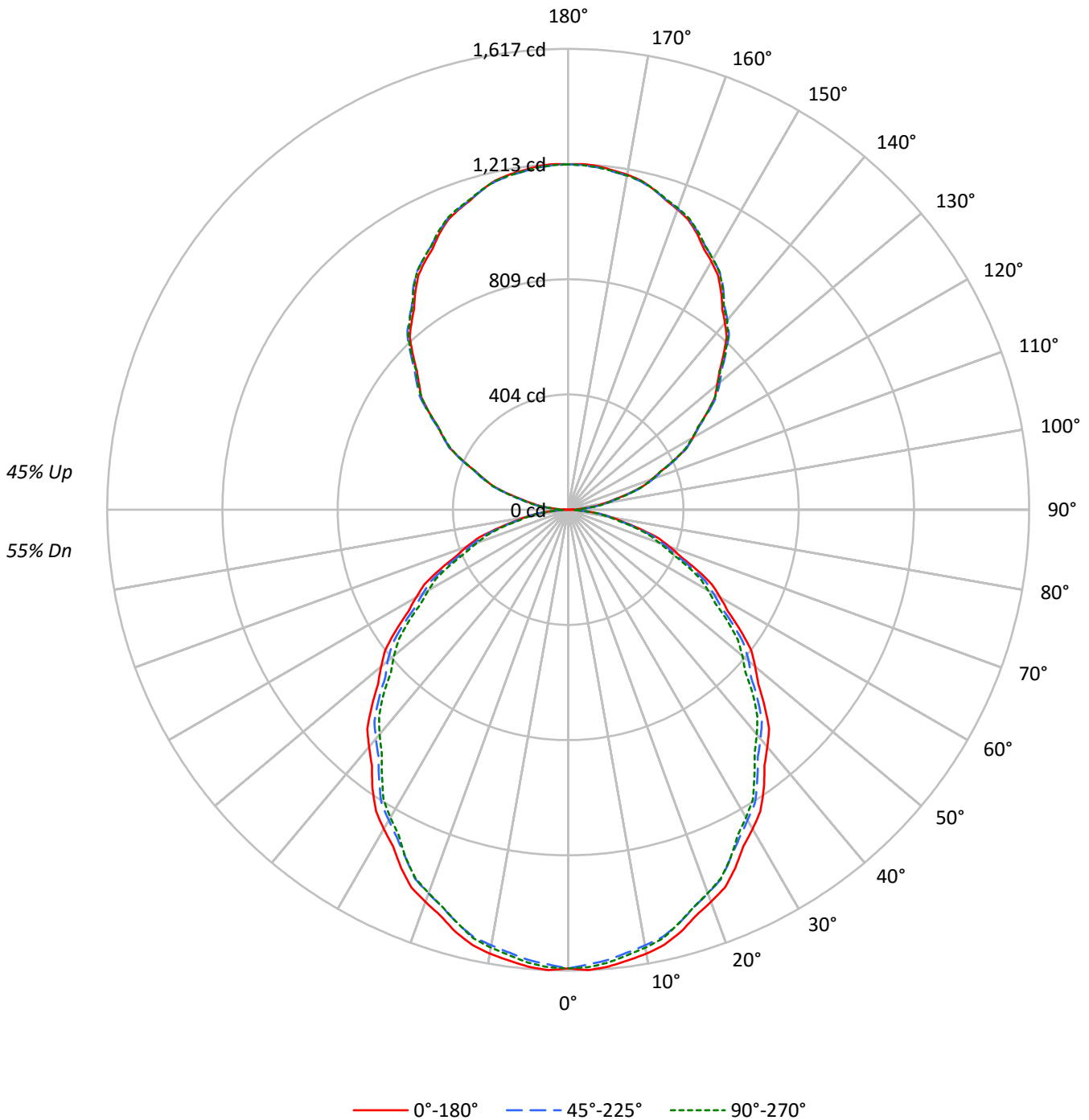
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	53	52	51
2	90	83	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32
5	69	57	49	43	64	54	46	41	46	41	36	40	35	32	34	30	28
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	30	27	24
7	59	46	38	33	54	44	36	31	38	32	28	33	28	25	28	24	22
8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25987	25987	25987
5°	26086	25710	25861
10°	25932	25450	25576
15°	25611	25120	25095
20°	25156	24624	24598
25°	24704	24015	24015
30°	24121	23457	23256
35°	23580	22787	22450
40°	22898	22118	21692
45°	22229	21450	20922
50°	21499	20760	20022
55°	20738	19952	19212
60°	19888	18991	18290
65°	18980	18032	17207
70°	17825	16877	16074
75°	16220	15540	15159
80°	14393	13966	13240
85°	11745	11189	10022



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.3	2.0
10°-20°	425.9	5.7
20°-30°	626.0	8.4
30°-40°	727.1	9.7
40°-50°	726.3	9.7
50°-60°	633.4	8.5
60°-70°	468.3	6.3
70°-80°	265.3	3.5
80°-90°	76.2	1.0
90°-100°	76.8	1.0
100°-110°	238.5	3.2
110°-120°	407.7	5.4
120°-130°	536.2	7.2
130°-140°	601.8	8.0
140°-150°	590.1	7.9
150°-160°	494.9	6.6
160°-170°	328.3	4.4
170°-180°	114.7	1.5
0°-30°	1203.2	16.1
0°-40°	1930.3	25.8
0°-60°	3290.0	43.9
0°-90°	4099.8	54.7
90°-120°	723.1	9.7
90°-150°	2451.2	32.7
90°-180°	3389.0	45.3
0°-180°	7488.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1610	1603	1586	1598	1596	153
15°	1532	1522	1503	1508	1501	431
25°	1387	1374	1348	1351	1348	638
35°	1196	1180	1156	1147	1139	747
45°	974	962	939	923	916	751
55°	737	727	709	691	682	658
65°	497	487	472	458	450	491
75°	260	257	249	241	243	278
85°	63	62	60	56	54	73
90°	1	14	36	34	35	6
95°	53	63	65	65	63	61
105°	220	223	225	227	227	232
115°	409	415	413	412	409	405
125°	595	604	602	598	597	532
135°	770	781	784	782	779	595
145°	935	942	948	949	945	584
155°	1069	1072	1075	1080	1077	492
165°	1163	1162	1162	1168	1164	328
175°	1210	1207	1205	1211	1206	115
180°	1212	1212	1212	1212	1212	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1617.0	1615.6	1614.3	1612.9	1611.4	1609.3	1606.3	1603.3	1600.2	1597.2	1599.9
5°	1609.5	1608.2	1606.8	1605.4	1604.1	1601.4	1597.7	1593.9	1590.1	1586.3	1589.1
7.5°	1595.3	1593.2	1591.0	1588.9	1586.8	1583.8	1579.9	1576.1	1572.3	1568.4	1571.1
10°	1581.7	1579.3	1576.9	1574.5	1572.1	1568.8	1564.7	1560.5	1556.4	1552.3	1555.1
12.5°	1563.2	1560.9	1558.8	1556.7	1554.6	1551.5	1547.3	1543.2	1539.1	1535.0	1536.9
15°	1532.2	1530.1	1528.0	1526.0	1523.9	1520.7	1516.2	1511.7	1507.2	1502.8	1504.2
17.5°	1492.6	1490.5	1488.4	1486.3	1484.3	1481.0	1476.4	1471.9	1467.3	1462.9	1464.4
20°	1464.1	1462.0	1460.0	1457.8	1455.8	1452.4	1447.5	1442.8	1437.9	1433.1	1434.1
22.5°	1435.6	1432.7	1429.9	1426.9	1424.0	1420.4	1415.8	1411.3	1406.7	1402.2	1402.4
25°	1386.7	1383.9	1381.2	1378.5	1375.7	1371.4	1365.5	1359.7	1353.8	1348.0	1348.7
27.5°	1331.0	1328.5	1326.1	1323.5	1321.1	1317.6	1312.9	1308.3	1303.7	1299.1	1298.1
30°	1293.8	1291.1	1288.3	1285.6	1282.8	1278.9	1273.7	1268.6	1263.4	1258.2	1257.2
32.5°	1254.3	1252.0	1249.8	1247.6	1245.4	1241.6	1236.2	1230.7	1225.3	1219.8	1218.0
35°	1196.3	1192.9	1189.4	1186.0	1182.6	1178.1	1172.6	1167.1	1161.6	1156.1	1154.1
37.5°	1131.0	1128.0	1125.0	1122.0	1118.9	1114.7	1109.1	1103.7	1098.1	1092.7	1090.0
40°	1086.4	1083.7	1081.0	1078.2	1075.4	1071.4	1065.8	1060.4	1054.8	1049.4	1046.2
42.5°	1043.1	1040.4	1037.6	1034.9	1032.1	1027.9	1022.5	1016.9	1011.5	1005.9	1002.6
45°	973.5	971.1	968.7	966.2	963.8	960.1	954.9	949.8	944.6	939.4	935.6
47.5°	904.1	901.9	899.6	897.4	895.0	891.2	885.9	880.5	875.1	869.8	865.8
50°	855.9	854.1	852.4	850.7	849.0	845.7	840.9	836.1	831.2	826.5	821.6
52.5°	808.8	806.6	804.3	802.0	799.7	796.3	791.7	787.2	782.7	778.2	774.2
55°	736.7	734.6	732.6	730.5	728.4	725.3	721.2	717.1	713.0	708.8	704.7
57.5°	664.3	662.6	661.0	659.3	657.6	654.6	650.1	645.5	641.0	636.4	632.4
60°	615.9	614.6	613.2	611.9	610.5	607.3	602.6	597.7	592.9	588.1	584.3
62.5°	569.0	566.7	564.5	562.3	560.1	557.1	553.4	549.8	546.0	542.3	538.8
65°	496.8	494.7	492.7	490.6	488.6	485.7	482.3	478.9	475.4	472.0	469.0
67.5°	423.4	421.8	420.1	418.5	416.9	414.4	411.3	408.3	405.2	402.1	399.7
70°	377.6	376.3	374.9	373.5	372.1	369.9	366.8	363.7	360.6	357.5	355.1
72.5°	330.5	329.2	327.8	326.5	325.1	323.4	321.4	319.4	317.4	315.4	313.0
75°	260.0	259.3	258.6	257.9	257.2	256.0	254.3	252.6	250.9	249.1	247.1
77.5°	196.8	195.7	194.5	193.4	192.2	191.3	190.6	189.9	189.1	188.5	187.4
80°	154.8	154.4	154.1	153.7	153.4	152.9	152.2	151.5	150.8	150.2	149.1
82.5°	115.1	115.1	115.0	114.9	114.8	114.6	114.2	113.8	113.4	113.0	111.7
85°	63.4	63.1	62.8	62.4	62.1	61.7	61.4	61.0	60.7	60.4	59.3
87.5°	22.5	22.5	22.5	22.5	22.5	22.7	23.1	23.6	24.0	24.5	23.5
90°	1.0	3.7	6.5	9.2	11.9	15.8	20.8	25.8	30.8	35.7	35.3
92.5°	18.2	20.2	22.2	24.2	26.3	27.8	29.0	30.2	31.3	32.5	32.6
95°	53.2	55.4	57.8	60.0	62.3	63.6	64.1	64.5	65.0	65.4	65.4
97.5°	97.1	99.2	101.2	103.2	105.1	106.6	107.4	108.4	109.2	110.1	110.1
100°	129.9	131.7	133.5	135.3	137.1	138.5	139.1	139.8	140.5	141.2	141.2
102.5°	164.3	165.7	167.1	168.6	170.1	171.3	172.1	173.0	173.8	174.7	174.9
105°	219.9	220.6	221.3	222.0	222.7	223.2	223.7	224.1	224.6	225.0	225.5
107.5°	276.0	277.0	277.9	278.9	279.9	280.4	280.4	280.4	280.4	280.4	280.6
110°	311.9	313.4	314.7	316.1	317.4	318.1	318.1	318.1	318.1	318.1	318.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.2	352.6	354.0	355.4	356.7	357.3	357.1	356.9	356.8	356.6	356.0
115°	409.1	410.5	411.8	413.2	414.5	415.1	414.5	414.1	413.6	413.2	413.0
117.5°	466.9	468.7	470.5	472.3	474.1	474.3	473.1	471.8	470.6	469.3	468.8
120°	505.3	507.2	509.0	510.8	512.6	512.6	510.8	509.0	507.2	505.3	505.3
122.5°	540.5	542.7	544.8	547.0	549.2	549.7	548.4	547.1	545.8	544.5	544.0
125°	595.3	597.3	599.4	601.5	603.5	604.2	603.5	602.8	602.1	601.5	600.8
127.5°	648.7	651.3	653.9	656.5	659.0	659.9	659.1	658.3	657.5	656.7	655.8
130°	682.3	685.2	688.1	691.2	694.1	695.3	694.9	694.4	694.0	693.5	693.1
132.5°	719.8	722.3	724.7	727.1	729.5	730.7	730.8	730.9	731.0	731.1	730.1
135°	770.2	772.7	775.2	777.7	780.2	781.6	782.1	782.5	783.0	783.5	783.3
137.5°	823.1	825.3	827.3	829.3	831.3	832.7	833.2	833.8	834.5	835.1	834.9
140°	855.1	857.2	859.2	861.2	863.2	864.8	866.1	867.2	868.3	869.4	869.4
142.5°	887.9	889.9	891.9	893.9	896.1	897.5	898.2	899.0	899.8	900.5	900.7
145°	934.8	936.4	938.1	939.7	941.3	942.7	944.1	945.4	946.8	948.2	948.4
147.5°	976.8	978.8	980.7	982.5	984.4	985.8	986.7	987.6	988.6	989.5	990.0
150°	1005.4	1006.8	1008.1	1009.6	1010.9	1012.1	1013.0	1013.9	1014.8	1015.7	1016.3
152.5°	1030.9	1032.2	1033.6	1034.9	1036.3	1037.5	1038.6	1039.7	1040.8	1041.9	1042.7
155°	1068.8	1069.5	1070.3	1071.0	1071.6	1072.3	1073.0	1073.7	1074.3	1075.0	1076.1
157.5°	1101.4	1101.9	1102.3	1102.8	1103.2	1103.7	1104.1	1104.5	1104.9	1105.3	1106.8
160°	1121.1	1121.5	1122.0	1122.4	1122.9	1123.2	1123.5	1123.7	1123.9	1124.1	1125.5
162.5°	1139.0	1139.1	1139.2	1139.3	1139.4	1139.5	1139.8	1140.0	1140.2	1140.4	1142.1
165°	1163.0	1162.8	1162.6	1162.3	1162.1	1162.0	1162.0	1162.0	1162.0	1162.0	1163.6
167.5°	1183.1	1182.3	1181.6	1180.9	1180.3	1179.9	1179.9	1179.8	1179.8	1179.7	1181.3
170°	1193.7	1193.0	1192.3	1191.6	1190.9	1190.5	1190.2	1190.0	1189.8	1189.6	1191.1
172.5°	1201.0	1200.3	1199.6	1199.0	1198.3	1197.8	1197.6	1197.4	1197.2	1196.9	1198.5
175°	1210.0	1209.3	1208.7	1208.0	1207.3	1206.7	1206.3	1205.8	1205.4	1204.9	1206.5
177.5°	1213.8	1213.2	1212.6	1212.0	1211.5	1211.0	1210.7	1210.3	1210.0	1209.6	1210.7
180°	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1602.7	1605.4	1608.2	1609.3	1608.7	1608.2	1607.6	1607.1
5°	1591.9	1594.6	1597.3	1598.4	1597.7	1597.0	1596.3	1595.6
7.5°	1573.9	1576.6	1579.4	1580.4	1579.6	1578.9	1578.1	1577.4
10°	1557.8	1560.5	1563.3	1564.2	1563.2	1562.1	1561.0	1560.0
12.5°	1538.8	1540.8	1542.7	1543.3	1542.5	1541.8	1541.0	1540.2
15°	1505.5	1506.9	1508.2	1508.1	1506.4	1504.7	1503.0	1501.3
17.5°	1466.0	1467.6	1469.2	1469.2	1467.4	1465.8	1464.2	1462.5
20°	1435.2	1436.2	1437.2	1437.0	1435.7	1434.3	1433.0	1431.6
22.5°	1402.6	1402.8	1403.0	1402.7	1401.9	1401.1	1400.2	1399.4
25°	1349.4	1350.1	1350.8	1350.8	1350.1	1349.4	1348.7	1348.0
27.5°	1297.1	1296.0	1294.9	1293.6	1292.0	1290.3	1288.7	1287.1
30°	1256.2	1255.2	1254.2	1252.9	1251.5	1250.1	1248.8	1247.4
32.5°	1216.2	1214.3	1212.4	1210.8	1209.4	1208.1	1206.7	1205.3
35°	1152.0	1149.9	1147.8	1146.0	1144.3	1142.6	1140.7	1139.0
37.5°	1087.5	1085.0	1082.5	1080.4	1078.7	1077.0	1075.4	1073.8
40°	1043.1	1040.1	1036.9	1034.7	1033.3	1032.0	1030.6	1029.2
42.5°	999.3	995.8	992.5	989.9	988.0	986.0	984.1	982.1
45°	931.9	928.1	924.3	921.7	920.3	919.0	917.6	916.3
47.5°	861.8	857.8	853.8	850.8	848.8	846.9	844.9	842.8
50°	816.8	812.0	807.2	804.0	802.2	800.5	798.8	797.1
52.5°	770.2	766.2	762.2	759.1	756.8	754.6	752.2	750.0
55°	700.5	696.4	692.4	689.4	687.7	686.0	684.3	682.5
57.5°	628.2	624.2	620.2	617.4	616.2	614.9	613.6	612.3
60°	580.6	576.7	573.0	570.6	569.6	568.6	567.4	566.4
62.5°	535.3	531.8	528.3	525.8	524.5	523.2	521.9	520.6
65°	465.9	462.7	459.7	457.3	455.6	453.8	452.1	450.4
67.5°	397.3	394.9	392.4	390.5	389.2	387.8	386.5	385.1
70°	352.6	350.3	347.9	346.0	344.6	343.3	341.8	340.5
72.5°	310.6	308.2	305.8	304.1	303.0	301.8	300.7	299.6
75°	245.1	243.0	241.0	240.2	241.0	241.6	242.3	243.0
77.5°	186.4	185.4	184.4	183.4	182.4	181.5	180.5	179.6
80°	148.0	147.0	146.0	145.1	144.4	143.8	143.1	142.4
82.5°	110.4	109.1	107.8	107.0	106.8	106.7	106.6	106.4
85°	58.3	57.3	56.2	55.5	55.2	54.8	54.5	54.1
87.5°	22.6	21.7	20.8	20.3	20.0	19.8	19.6	19.3
90°	34.8	34.4	33.9	33.8	34.1	34.3	34.5	34.7
92.5°	32.7	32.8	32.9	32.9	33.0	33.0	33.1	33.1
95°	65.4	65.4	65.4	65.2	64.7	64.3	63.8	63.4
97.5°	110.1	110.1	110.1	110.1	110.0	110.0	109.9	109.9
100°	141.2	141.2	141.2	141.1	140.8	140.6	140.4	140.2
102.5°	175.1	175.2	175.4	175.4	175.2	174.9	174.7	174.5
105°	225.9	226.4	226.8	227.1	227.1	227.1	227.1	227.1
107.5°	280.8	281.0	281.1	280.7	279.7	278.6	277.6	276.6
110°	318.1	318.1	318.1	317.8	317.1	316.4	315.7	315.1



TEST NUMBER: P331602-840

CATALOG NUMBER: S122DIW-S1005D970U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	355.5	355.0	354.4	353.9	353.4	352.8	352.3	351.8
115°	412.7	412.5	412.3	411.8	411.2	410.5	409.8	409.1
117.5°	468.2	467.7	467.1	466.5	465.9	465.1	464.4	463.7
120°	505.3	505.3	505.3	504.9	504.2	503.6	502.9	502.2
122.5°	543.5	542.9	542.4	541.9	541.4	540.9	540.4	539.9
125°	600.1	599.4	598.7	598.2	598.0	597.8	597.5	597.3
127.5°	655.0	654.2	653.4	652.6	651.9	651.2	650.5	649.7
130°	692.6	692.2	691.7	690.9	690.0	689.1	688.2	687.3
132.5°	729.1	728.1	727.1	726.3	725.6	724.8	724.1	723.4
135°	783.0	782.8	782.5	782.1	781.4	780.7	780.1	779.4
137.5°	834.7	834.6	834.4	833.7	832.8	831.9	831.0	830.1
140°	869.4	869.4	869.4	869.0	868.1	867.2	866.3	865.4
142.5°	900.9	901.1	901.2	900.9	900.0	899.1	898.2	897.3
145°	948.7	948.9	949.1	948.8	947.9	947.0	946.0	945.1
147.5°	990.5	991.0	991.5	991.3	990.5	989.6	988.8	987.8
150°	1017.0	1017.7	1018.4	1018.4	1017.7	1017.0	1016.3	1015.7
152.5°	1043.6	1044.5	1045.3	1045.3	1044.5	1043.6	1042.7	1041.9
155°	1077.3	1078.4	1079.5	1079.7	1079.1	1078.4	1077.7	1077.0
157.5°	1108.4	1109.9	1111.5	1111.7	1110.6	1109.5	1108.4	1107.3
160°	1126.8	1128.2	1129.5	1129.8	1128.9	1128.0	1127.1	1126.2
162.5°	1143.6	1145.1	1146.7	1146.9	1145.8	1144.7	1143.6	1142.6
165°	1165.2	1166.7	1168.3	1168.5	1167.4	1166.3	1165.2	1164.0
167.5°	1183.0	1184.6	1186.1	1186.3	1185.2	1184.0	1182.8	1181.6
170°	1192.8	1194.4	1196.0	1196.1	1194.7	1193.4	1191.9	1190.6
172.5°	1200.1	1201.7	1203.3	1203.5	1202.0	1200.7	1199.3	1198.0
175°	1208.1	1209.7	1211.2	1211.4	1210.0	1208.7	1207.3	1206.0
177.5°	1211.8	1212.8	1214.0	1214.0	1212.8	1211.8	1210.7	1209.6
180°	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0

(END OF REPORT)