

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: P331608-840

Luminaire Tested: **S122DIW-S1005D1240U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331608-840  
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-S1005D1240U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

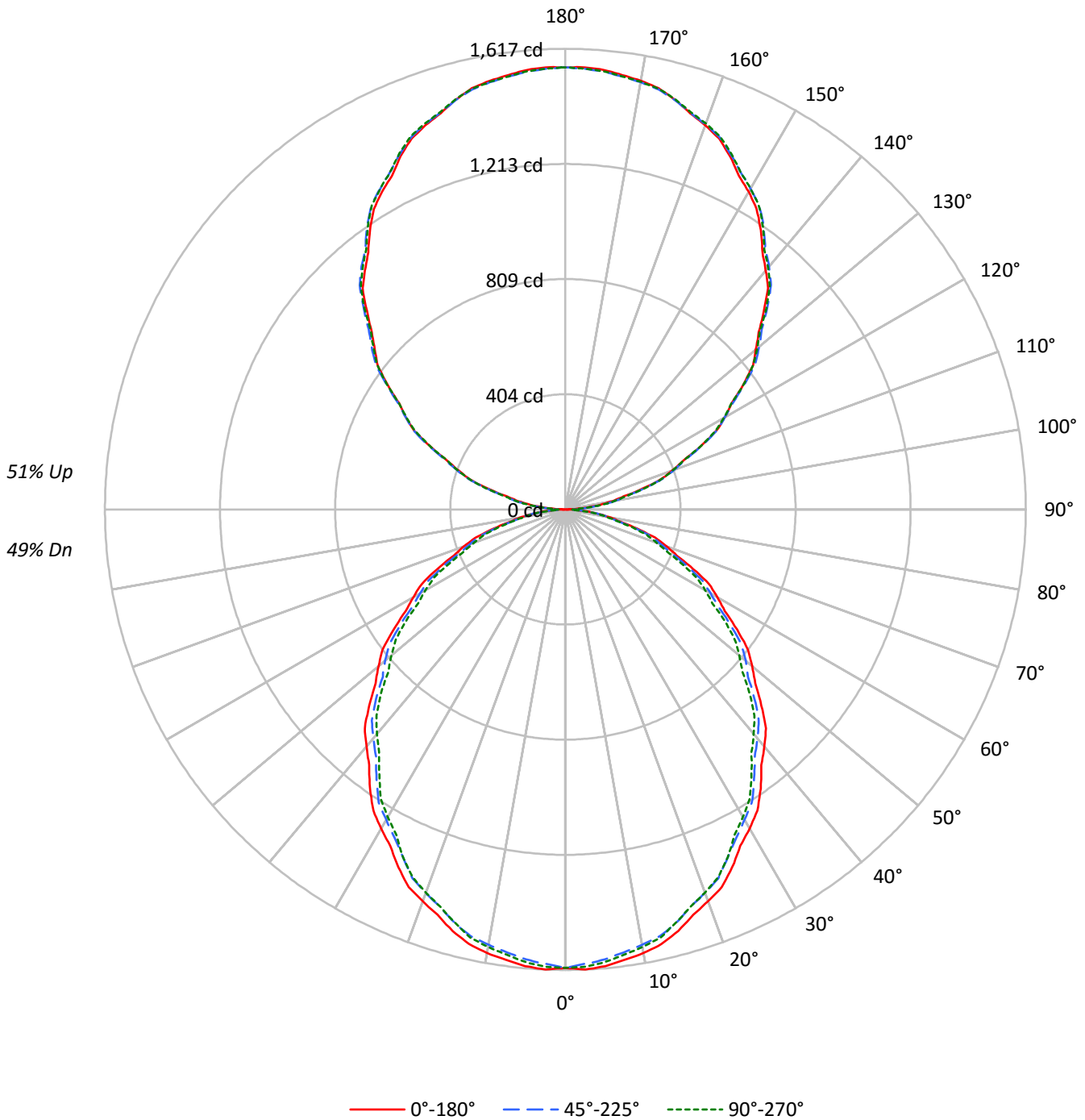
Lumens per Lamp: N/A  
Luminaire Lumens: 8439.9 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 76.2  
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	50	30	10
RCR																				
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49		
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41		
2	89	81	75	70	81	75	70	65	63	59	56	53	50	47	43	41	39	34		
3	81	71	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33	29		
4	74	63	55	49	68	59	52	46	50	44	40	41	37	34	34	31	29	25		
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22		
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	24	22	19		
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17		
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	17	15		
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	14		
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12		

**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	1.8
10°-20°	425.9	5.0
20°-30°	626.0	7.4
30°-40°	727.1	8.6
40°-50°	726.3	8.6
50°-60°	633.4	7.5
60°-70°	468.3	5.5
70°-80°	265.3	3.1
80°-90°	77.5	0.9
90°-100°	98.3	1.2
100°-110°	305.4	3.6
110°-120°	522.0	6.2
120°-130°	686.4	8.1
130°-140°	770.4	9.1
140°-150°	755.4	9.0
150°-160°	633.6	7.5
160°-170°	420.3	5.0
170°-180°	146.9	1.7
0°-30°	1203.2	14.3
0°-40°	1930.3	22.9
0°-60°	3290.0	39.0
0°-90°	4101.1	48.6
90°-120°	925.7	11.0
90°-150°	3138.0	37.2
90°-180°	4339.0	51.4
0°-180°	8439.9	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	18	46	43	44	7
95°	68	81	84	84	81	78
105°	282	285	288	291	291	297
115°	524	531	529	528	524	518
125°	762	773	770	766	765	681
135°	986	1000	1003	1002	998	761
145°	1197	1206	1214	1215	1210	747
155°	1368	1372	1376	1382	1379	630
165°	1489	1488	1488	1496	1490	420
175°	1549	1545	1542	1551	1544	147
180°	1552	1552	1552	1552	1552	



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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	22.7	22.8	23.0	23.1	23.5	24.3	25.0	25.8	26.5	25.5
90°	1.3	4.8	8.3	11.8	15.2	20.2	26.7	33.0	39.4	45.8	45.2
92.5°	23.3	25.9	28.5	31.0	33.5	35.5	37.1	38.6	40.1	41.6	41.7
95°	68.1	71.0	73.9	76.9	79.8	81.5	82.1	82.6	83.2	83.8	83.8
97.5°	124.4	126.9	129.6	132.1	134.6	136.4	137.5	138.7	139.8	140.9	140.9
100°	166.3	168.6	171.0	173.3	175.6	177.2	178.0	178.9	179.9	180.7	180.7
102.5°	210.3	212.2	214.0	215.9	217.7	219.2	220.4	221.5	222.6	223.7	223.9
105°	281.6	282.4	283.3	284.2	285.0	285.8	286.3	286.9	287.5	288.1	288.6
107.5°	353.3	354.6	355.9	357.1	358.4	359.0	359.0	359.0	359.0	359.0	359.3
110°	399.4	401.1	402.8	404.7	406.4	407.3	407.3	407.3	407.3	407.3	407.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	449.7	451.4	453.1	454.9	456.7	457.4	457.2	457.0	456.7	456.5	455.8
115°	523.8	525.5	527.3	529.0	530.8	531.3	530.8	530.2	529.6	529.0	528.8
117.5°	597.6	600.0	602.3	604.6	606.9	607.3	605.6	604.0	602.4	600.8	600.1
120°	646.8	649.1	651.6	653.9	656.2	656.2	653.9	651.6	649.1	646.8	646.8
122.5°	691.9	694.7	697.5	700.2	703.1	703.7	702.1	700.4	698.7	697.1	696.4
125°	762.0	764.7	767.3	769.9	772.5	773.5	772.5	771.7	770.8	769.9	769.1
127.5°	830.4	833.7	837.1	840.4	843.7	844.9	843.8	842.7	841.7	840.6	839.6
130°	873.4	877.2	881.0	884.7	888.5	890.1	889.6	889.0	888.4	887.8	887.2
132.5°	921.6	924.6	927.8	930.8	933.9	935.5	935.6	935.7	935.8	935.9	934.7
135°	986.0	989.2	992.4	995.6	998.9	1000.7	1001.3	1001.9	1002.5	1003.0	1002.7
137.5°	1053.8	1056.4	1059.0	1061.7	1064.3	1066.0	1066.7	1067.5	1068.2	1069.0	1068.8
140°	1094.7	1097.3	1099.9	1102.6	1105.2	1107.2	1108.6	1110.1	1111.6	1113.0	1113.0
142.5°	1136.6	1139.2	1141.9	1144.5	1147.1	1148.8	1149.8	1150.8	1151.9	1152.9	1153.1
145°	1196.8	1198.9	1200.9	1203.0	1205.0	1206.9	1208.6	1210.3	1212.1	1213.9	1214.2
147.5°	1250.5	1252.9	1255.4	1257.9	1260.3	1262.1	1263.2	1264.5	1265.6	1266.8	1267.4
150°	1287.2	1288.9	1290.7	1292.4	1294.1	1295.7	1296.8	1298.0	1299.1	1300.3	1301.1
152.5°	1319.7	1321.4	1323.1	1324.8	1326.7	1328.2	1329.6	1331.0	1332.4	1333.8	1334.9
155°	1368.4	1369.3	1370.1	1371.0	1371.9	1372.7	1373.6	1374.4	1375.3	1376.2	1377.7
157.5°	1410.0	1410.6	1411.2	1411.8	1412.3	1412.9	1413.4	1413.9	1414.4	1415.0	1416.9
160°	1435.1	1435.7	1436.3	1436.9	1437.4	1437.9	1438.1	1438.5	1438.8	1439.1	1440.8
162.5°	1458.1	1458.3	1458.4	1458.5	1458.6	1458.9	1459.2	1459.5	1459.8	1460.1	1462.0
165°	1488.8	1488.5	1488.2	1487.9	1487.6	1487.5	1487.5	1487.5	1487.5	1487.5	1489.6
167.5°	1514.5	1513.6	1512.8	1511.9	1511.0	1510.6	1510.5	1510.5	1510.4	1510.3	1512.4
170°	1528.1	1527.2	1526.4	1525.5	1524.6	1524.1	1523.8	1523.5	1523.2	1522.9	1524.9
172.5°	1537.5	1536.7	1535.8	1534.9	1534.1	1533.5	1533.2	1532.9	1532.6	1532.3	1534.4
175°	1549.0	1548.2	1547.3	1546.4	1545.6	1544.9	1544.3	1543.7	1543.1	1542.5	1544.6
177.5°	1553.8	1553.1	1552.4	1551.7	1551.0	1550.4	1549.9	1549.4	1549.0	1548.5	1549.9
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7



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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°	24.6	23.6	22.7	22.1	21.9	21.7	21.5	21.3
90°	44.6	44.1	43.5	43.3	43.6	43.9	44.2	44.5
92.5°	41.9	42.0	42.1	42.2	42.2	42.3	42.4	42.4
95°	83.8	83.8	83.8	83.5	82.9	82.3	81.8	81.2
97.5°	140.9	140.9	140.9	140.9	140.8	140.8	140.7	140.7
100°	180.7	180.7	180.7	180.6	180.3	180.0	179.7	179.4
102.5°	224.1	224.4	224.6	224.6	224.3	224.0	223.7	223.4
105°	289.2	289.8	290.4	290.7	290.7	290.7	290.7	290.7
107.5°	359.5	359.7	360.0	359.4	358.1	356.8	355.4	354.1
110°	407.3	407.3	407.3	406.8	406.0	405.1	404.1	403.3





TEST NUMBER: P331608-840

CATALOG NUMBER: S122DIW-S1005D1240U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	455.0	454.3	453.6	453.0	452.3	451.7	451.1	450.4
115°	528.5	528.2	527.9	527.3	526.4	525.5	524.6	523.8
117.5°	599.4	598.6	597.9	597.2	596.3	595.4	594.6	593.7
120°	646.8	646.8	646.8	646.4	645.5	644.7	643.8	643.0
122.5°	695.8	695.1	694.4	693.7	693.1	692.4	691.8	691.2
125°	768.2	767.3	766.5	765.9	765.6	765.3	765.0	764.7
127.5°	838.6	837.5	836.5	835.5	834.6	833.6	832.7	831.7
130°	886.7	886.1	885.4	884.6	883.4	882.3	881.1	879.9
132.5°	933.4	932.1	930.9	929.8	928.9	927.9	927.0	926.0
135°	1002.5	1002.2	1001.9	1001.3	1000.4	999.6	998.7	997.7
137.5°	1068.5	1068.3	1068.1	1067.4	1066.2	1065.1	1063.9	1062.8
140°	1113.0	1113.0	1113.0	1112.5	1111.3	1110.1	1108.9	1107.8
142.5°	1153.3	1153.6	1153.8	1153.3	1152.2	1150.9	1149.8	1148.6
145°	1214.5	1214.8	1215.0	1214.6	1213.5	1212.2	1211.1	1209.9
147.5°	1268.0	1268.7	1269.3	1269.1	1268.0	1266.9	1265.8	1264.7
150°	1302.0	1302.9	1303.7	1303.7	1302.9	1302.0	1301.1	1300.3
152.5°	1336.1	1337.1	1338.2	1338.2	1337.1	1336.1	1334.9	1333.8
155°	1379.2	1380.6	1382.0	1382.3	1381.5	1380.6	1379.7	1378.9
157.5°	1419.0	1420.9	1422.9	1423.2	1421.8	1420.4	1419.0	1417.5
160°	1442.6	1444.3	1446.0	1446.3	1445.2	1444.0	1442.9	1441.7
162.5°	1464.0	1465.9	1467.9	1468.2	1466.8	1465.4	1464.0	1462.7
165°	1491.6	1493.6	1495.7	1495.9	1494.5	1493.1	1491.6	1490.2
167.5°	1514.4	1516.4	1518.4	1518.7	1517.2	1515.7	1514.2	1512.7
170°	1526.9	1528.9	1531.1	1531.2	1529.4	1527.7	1525.9	1524.2
172.5°	1536.4	1538.4	1540.4	1540.5	1538.8	1537.1	1535.4	1533.6
175°	1546.6	1548.6	1550.6	1550.8	1549.0	1547.3	1545.6	1543.8
177.5°	1551.4	1552.8	1554.1	1554.1	1552.8	1551.4	1549.9	1548.5
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7

(END OF REPORT)