

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: P331491-927

Luminaire Tested: **S122DIW-S290D1440U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331491-927
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-S290D1440U927-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 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: 5514.2 lumens
Efficiency: N/A
Efficacy: 103.3 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

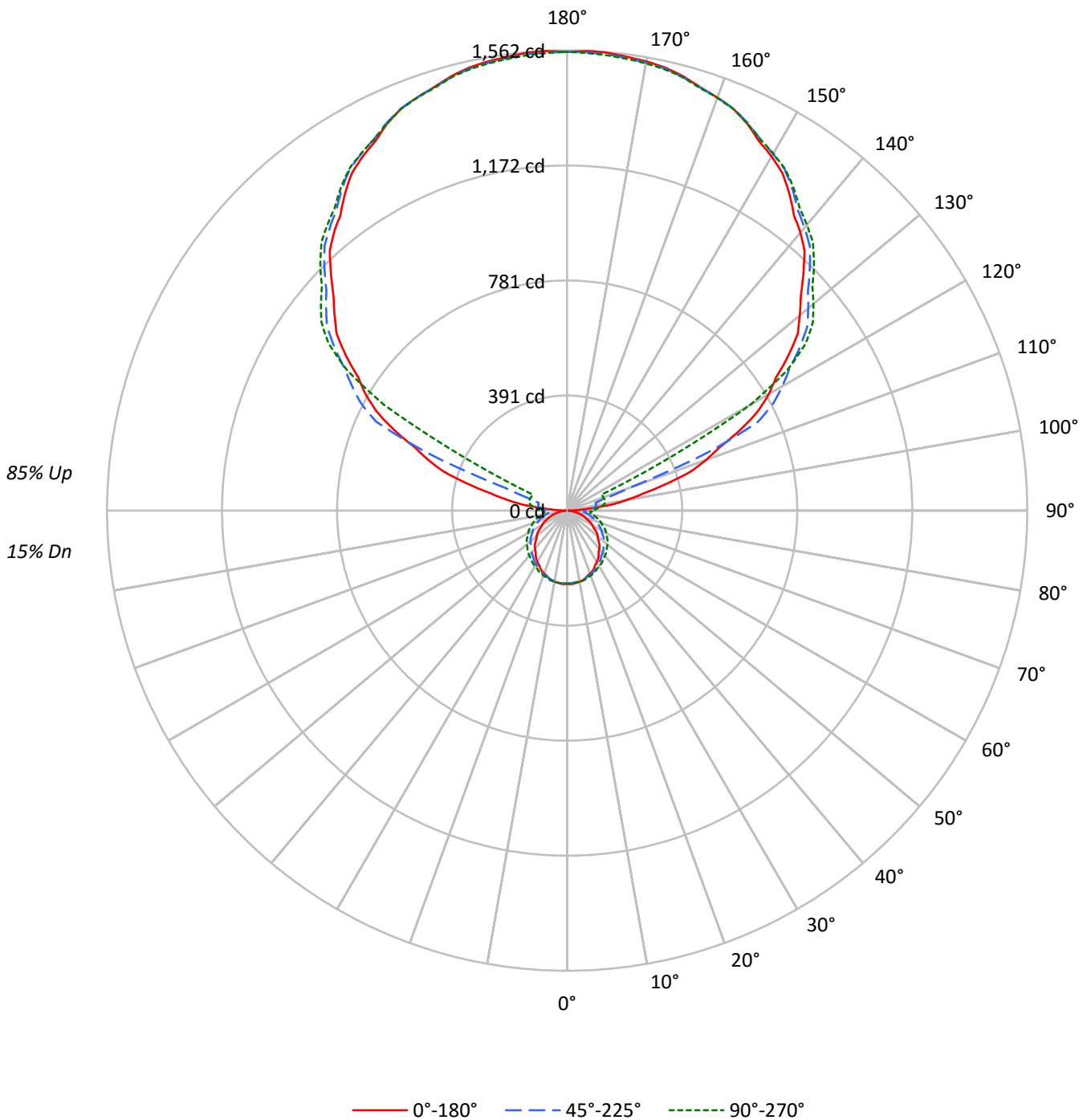
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331491-927

CATALOG NUMBER: S122DIW-S290D1440U927-4F0-1E-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	99	99	99	99	87	87	87	87	64	64	64	43	43	43	24	24	24	15
1	90	85	81	78	78	75	72	69	55	53	51	37	36	35	21	20	19	12
2	81	74	68	63	71	65	60	56	48	45	42	32	30	29	18	17	16	10
3	74	65	58	52	64	57	51	46	42	38	35	28	26	24	16	14	13	8
4	67	57	50	44	59	50	44	39	37	33	30	25	22	20	14	13	11	7
5	62	51	43	37	54	45	38	33	33	29	25	22	20	17	12	11	10	6
6	57	45	37	32	49	40	33	28	30	25	22	20	17	15	11	10	8	5
7	52	40	33	28	45	36	29	25	27	22	19	18	15	13	10	9	7	4
8	48	36	29	24	42	32	26	22	24	20	16	16	14	11	9	8	7	4
9	45	33	26	21	39	29	23	19	22	18	15	15	12	10	8	7	6	3
10	42	30	23	19	36	27	21	17	20	16	13	14	11	9	8	6	5	3

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	0.4
10°-20°	67.5	1.2
20°-30°	102.2	1.9
30°-40°	124.5	2.3
40°-50°	134.0	2.4
50°-60°	130.1	2.4
60°-70°	113.6	2.1
70°-80°	87.5	1.6
80°-90°	62.5	1.1
90°-100°	92.4	1.7
100°-110°	220.0	4.0
110°-120°	528.6	9.6
120°-130°	851.3	15.4
130°-140°	898.4	16.3
140°-150°	831.5	15.1
150°-160°	667.9	12.1
160°-170°	430.4	7.8
170°-180°	148.2	2.7
0°-30°	193.2	3.5
0°-40°	317.8	5.8
0°-60°	581.9	10.6
0°-90°	845.4	15.3
90°-120°	841.0	15.3
90°-150°	3422.2	62.1
90°-180°	4669.0	84.7
0°-180°	5514.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	5	38	70	89	97	6
95°	76	59	85	104	108	92
105°	344	370	100	124	133	368
115°	649	674	717	230	129	639
125°	917	932	964	981	988	817
135°	1134	1152	1166	1183	1185	875
145°	1315	1315	1333	1342	1339	822
155°	1448	1439	1451	1457	1449	667
165°	1526	1519	1522	1529	1522	431
175°	1560	1553	1555	1562	1551	148
180°	1557	1557	1557	1557	1557	



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CATALOG NUMBER: S122DIW-S290D1440U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.3	12.6	17.9	23.2	28.5	34.0	39.5	45.0	50.5	56.0	59.6
90°	4.8	12.1	19.5	26.9	34.3	41.6	48.6	55.8	62.9	70.0	74.5
92.5°	26.1	30.1	34.2	38.3	42.3	47.4	53.2	59.2	65.1	71.1	74.9
95°	76.1	71.6	67.1	62.6	58.1	59.1	65.7	72.2	78.7	85.3	89.6
97.5°	147.8	127.9	108.0	88.0	68.1	62.4	71.1	79.8	88.4	97.1	101.1
100°	201.9	170.6	139.3	107.9	76.6	65.3	74.0	82.7	91.5	100.2	105.2
102.5°	261.1	256.6	252.0	247.5	242.9	225.0	193.8	162.5	131.3	100.0	105.5
105°	344.3	354.1	364.0	373.8	383.7	356.5	292.2	228.1	163.9	99.7	105.2
107.5°	439.6	447.5	455.3	463.3	471.2	436.2	358.1	280.2	202.2	124.2	124.1
110°	500.6	507.4	514.3	521.1	528.0	497.2	428.7	360.3	291.8	223.5	201.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	558.3	564.3	570.2	576.2	582.3	578.1	564.0	549.9	535.8	521.6	432.8
115°	649.3	654.4	659.6	664.7	669.8	677.3	687.1	697.0	706.9	716.8	603.2
117.5°	730.2	735.6	740.9	746.2	751.6	758.0	765.7	773.3	781.0	788.6	763.0
120°	789.7	793.8	797.9	802.0	806.0	811.9	819.7	827.4	835.0	842.8	848.0
122.5°	840.2	844.3	848.4	852.5	856.6	862.5	870.4	878.4	886.3	894.2	898.2
125°	916.7	920.0	923.2	926.5	929.7	935.0	942.3	949.7	957.0	964.2	968.2
127.5°	986.3	989.8	993.4	996.9	1000.4	1005.0	1010.6	1016.2	1021.8	1027.5	1032.1
130°	1030.5	1034.4	1038.3	1042.3	1046.2	1050.4	1054.8	1059.2	1063.7	1068.1	1072.8
132.5°	1075.5	1078.9	1082.2	1085.5	1088.9	1092.6	1096.6	1100.7	1104.7	1108.7	1112.9
135°	1133.8	1137.8	1141.8	1145.8	1149.9	1153.3	1156.4	1159.4	1162.5	1165.5	1169.7
137.5°	1193.0	1195.9	1198.7	1201.4	1204.2	1207.0	1210.0	1212.8	1215.8	1218.7	1222.6
140°	1231.8	1233.7	1235.6	1237.5	1239.5	1241.9	1244.8	1247.8	1250.7	1253.5	1257.1
142.5°	1264.2	1266.0	1267.7	1269.4	1271.1	1273.6	1276.8	1280.0	1283.2	1286.3	1289.4
145°	1314.9	1314.5	1314.3	1314.1	1313.8	1315.8	1320.1	1324.4	1328.6	1332.8	1335.1
147.5°	1359.2	1358.3	1357.3	1356.4	1355.4	1357.0	1361.2	1365.5	1369.7	1373.9	1375.2
150°	1388.1	1386.3	1384.6	1382.8	1381.0	1382.2	1386.2	1390.2	1394.2	1398.2	1399.7
152.5°	1412.4	1410.5	1408.5	1406.5	1404.6	1405.5	1409.3	1413.1	1416.9	1420.7	1422.2
155°	1447.8	1445.5	1443.3	1441.0	1438.8	1439.2	1442.2	1445.2	1448.2	1451.1	1452.6
157.5°	1475.5	1473.6	1471.7	1469.8	1467.9	1468.0	1470.1	1472.2	1474.3	1476.4	1478.1
160°	1491.7	1490.2	1488.7	1487.2	1485.7	1485.7	1487.2	1488.7	1490.2	1491.7	1493.2
162.5°	1506.1	1504.7	1503.2	1501.7	1500.2	1500.0	1501.3	1502.6	1504.0	1505.2	1507.0
165°	1525.5	1524.0	1522.5	1521.0	1519.5	1519.2	1519.9	1520.6	1521.4	1522.1	1523.9
167.5°	1539.9	1538.4	1536.9	1535.4	1533.9	1533.5	1534.2	1534.9	1535.6	1536.4	1538.1
170°	1548.1	1546.6	1545.1	1543.6	1542.1	1541.5	1542.1	1542.5	1543.0	1543.6	1545.3
172.5°	1553.5	1552.0	1550.5	1549.0	1547.4	1547.0	1547.4	1547.9	1548.5	1549.0	1550.7
175°	1560.4	1558.7	1557.0	1555.2	1553.5	1552.8	1553.3	1553.8	1554.3	1554.8	1556.6
177.5°	1561.5	1560.2	1558.8	1557.4	1555.9	1555.4	1555.5	1555.8	1555.9	1556.2	1557.6
180°	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	63.1	66.5	70.1	72.4	73.5	74.6	75.8	76.9
90°	78.9	83.4	87.9	90.8	92.3	93.7	95.1	96.6
92.5°	78.6	82.4	86.2	88.7	90.0	91.3	92.5	93.8
95°	93.9	98.2	102.5	105.0	105.7	106.4	107.1	107.8
97.5°	105.0	109.0	113.0	115.6	116.8	118.0	119.3	120.5
100°	110.1	115.1	120.0	123.3	124.6	126.0	127.4	128.7
102.5°	111.0	116.5	122.0	125.6	127.1	128.7	130.2	131.8
105°	110.7	116.4	121.9	125.6	127.5	129.4	131.3	133.2
107.5°	124.0	123.9	123.7	124.6	126.5	128.4	130.2	132.1
110°	178.5	156.0	133.6	123.3	125.1	127.0	128.9	130.8



TEST NUMBER: P331491-927

CATALOG NUMBER: S122DIW-S290D1440U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	344.0	255.2	166.4	122.9	124.6	126.3	127.9	129.6
115°	489.7	376.2	262.7	197.3	180.1	163.0	145.9	128.7
117.5°	737.3	711.6	686.0	643.9	585.4	527.0	468.6	410.2
120°	853.3	858.5	863.7	849.9	817.0	784.0	751.1	718.2
122.5°	902.1	906.2	910.1	909.2	903.4	897.6	891.8	886.0
125°	972.1	976.0	979.9	982.6	984.0	985.6	987.1	988.5
127.5°	1036.6	1041.1	1045.6	1048.3	1049.2	1050.0	1050.9	1051.7
130°	1077.4	1082.1	1086.8	1089.3	1089.7	1090.1	1090.5	1090.9
132.5°	1117.1	1121.4	1125.6	1127.9	1128.3	1128.7	1129.0	1129.4
135°	1173.9	1178.1	1182.3	1184.5	1184.6	1184.7	1184.9	1185.0
137.5°	1226.5	1230.4	1234.4	1236.2	1235.9	1235.6	1235.2	1234.9
140°	1260.7	1264.2	1267.7	1269.1	1268.3	1267.6	1266.8	1266.0
142.5°	1292.5	1295.6	1298.6	1299.8	1298.9	1298.1	1297.3	1296.4
145°	1337.3	1339.6	1341.8	1342.5	1341.6	1340.8	1339.9	1339.0
147.5°	1376.6	1378.0	1379.3	1379.6	1378.7	1377.8	1377.0	1376.2
150°	1401.2	1402.7	1404.2	1404.3	1403.1	1401.8	1400.6	1399.3
152.5°	1423.7	1425.2	1426.7	1426.6	1425.0	1423.4	1421.7	1420.1
155°	1454.1	1455.6	1457.1	1456.9	1454.9	1452.9	1450.9	1448.9
157.5°	1479.8	1481.5	1483.2	1483.0	1481.1	1479.2	1477.2	1475.3
160°	1494.7	1496.2	1497.7	1497.6	1495.9	1494.1	1492.3	1490.6
162.5°	1508.6	1510.4	1512.0	1511.8	1509.7	1507.5	1505.4	1503.2
165°	1525.7	1527.4	1529.1	1529.1	1527.4	1525.7	1523.9	1522.1
167.5°	1539.8	1541.6	1543.3	1543.1	1540.9	1538.6	1536.4	1534.1
170°	1547.1	1548.8	1550.5	1550.3	1548.1	1545.8	1543.6	1541.3
172.5°	1552.4	1554.2	1555.9	1555.7	1553.5	1551.2	1549.0	1546.7
175°	1558.3	1560.0	1561.8	1561.5	1558.9	1556.4	1553.9	1551.4
177.5°	1558.9	1560.4	1561.8	1561.5	1559.7	1558.0	1556.2	1554.3
180°	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0

(END OF REPORT)