

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: P331784-927

Luminaire Tested: **S122RDIW-S290D1440U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331784-927
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-S290D1440U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4780.7 lumens
Efficiency: N/A
Efficacy: 89.5 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-Indirect

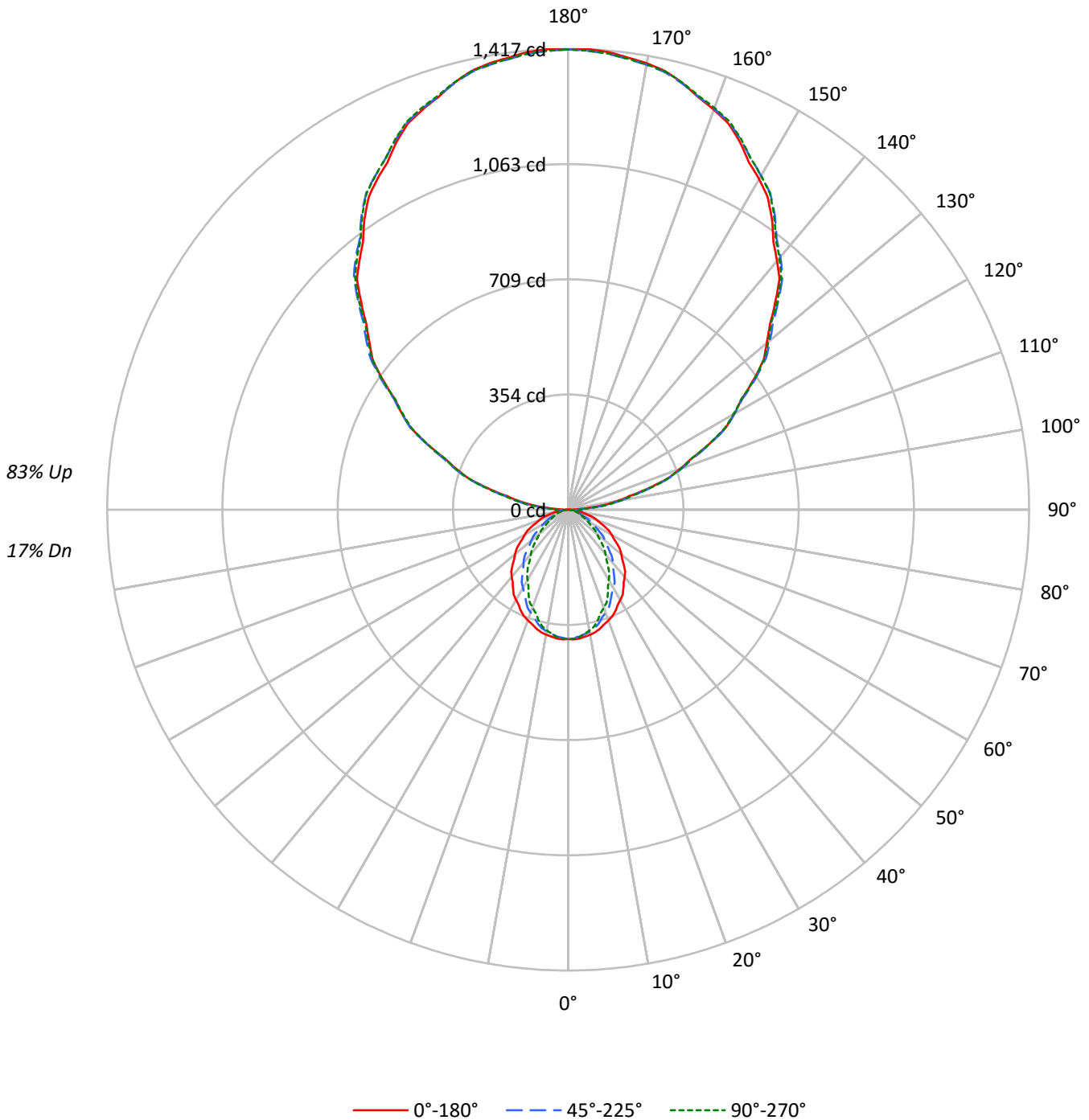
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331784-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F1

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	0
RCR																		
0	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17
1	91	87	83	80	80	76	73	71	57	55	53	39	38	37	23	23	22	15
2	83	76	70	65	72	67	62	58	50	47	44	35	33	31	21	20	19	13
3	75	67	60	54	66	59	53	49	44	41	37	31	29	27	18	17	16	11
4	69	59	51	46	60	52	46	41	39	35	32	27	25	23	16	15	14	9
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	13	12	8
6	58	47	39	34	51	41	35	30	32	27	24	22	19	17	13	12	11	7
7	54	42	35	29	47	37	31	26	28	24	21	20	17	15	12	11	10	7
8	50	38	31	26	43	34	28	23	26	21	18	18	16	13	11	10	9	6
9	46	35	27	23	40	31	25	21	24	19	16	17	14	12	10	9	8	5
10	43	31	25	20	38	28	22	18	22	17	15	15	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6421	6421	6421
5°	6446	6340	6374
10°	6396	6237	6184
15°	6322	6051	5877
20°	6220	5787	5498
25°	6116	5489	5129
30°	5972	5179	4657
35°	5830	4845	4242
40°	5689	4498	3762
45°	5523	4108	3329
50°	5350	3715	2901
55°	5177	3291	2494
60°	4973	2848	2070
65°	4741	2392	1883
70°	4471	1969	1733
75°	4130	1797	1616
80°	3645	1609	1469
85°	2853	1260	1260



TEST NUMBER: P331784-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.2	0.8
10°-20°	102.2	2.1
20°-30°	143.5	3.0
30°-40°	156.5	3.3
40°-50°	143.9	3.0
50°-60°	113.0	2.4
60°-70°	73.7	1.5
70°-80°	38.0	0.8
80°-90°	15.5	0.3
90°-100°	89.7	1.9
100°-110°	278.5	5.8
110°-120°	476.1	10.0
120°-130°	626.1	13.1
130°-140°	702.7	14.7
140°-150°	689.0	14.4
150°-160°	577.9	12.1
160°-170°	383.3	8.0
170°-180°	134.0	2.8
0°-30°	282.9	5.9
0°-40°	439.4	9.2
0°-60°	696.4	14.6
0°-90°	823.5	17.2
90°-120°	844.3	17.7
90°-150°	2862.0	59.9
90°-180°	3957.0	82.8
0°-180°	4780.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	391	394	393	38
15°	378	374	362	355	352	106
25°	343	331	308	294	288	158
35°	296	277	246	224	215	185
45°	242	217	180	155	146	187
55°	184	155	117	96	89	164
65°	124	95	63	51	49	123
75°	66	42	29	26	26	70
85°	15	8	7	7	7	18
90°	1	16	42	40	41	4
95°	62	74	76	76	74	71
105°	257	260	263	265	265	271
115°	478	484	482	481	478	472
125°	695	705	702	699	697	621
135°	899	912	915	914	910	694
145°	1092	1100	1107	1108	1104	682
155°	1248	1252	1255	1261	1258	574
165°	1358	1357	1357	1364	1359	383
175°	1413	1409	1407	1414	1408	134
180°	1415	1415	1415	1415	1415	



TEST NUMBER: P331784-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	399.1	398.8	398.5	398.2	397.8	397.3	396.6	395.9	395.2	394.5	395.1
5°	397.7	397.3	396.9	396.5	396.1	395.3	394.3	393.2	392.2	391.2	391.9
7.5°	393.6	393.1	392.5	392.1	391.6	390.7	389.5	388.2	387.1	385.9	386.0
10°	390.1	389.5	389.0	388.4	387.9	386.7	385.2	383.6	382.0	380.4	380.2
12.5°	385.8	385.1	384.4	383.7	383.0	381.7	379.6	377.6	375.5	373.4	373.0
15°	378.2	377.3	376.4	375.6	374.7	372.9	370.2	367.5	364.7	362.0	360.5
17.5°	368.9	367.6	366.2	364.9	363.5	361.2	357.7	354.2	350.7	347.2	345.4
20°	362.0	360.4	358.9	357.2	355.6	352.8	348.8	344.8	340.9	336.8	334.9
22.5°	354.6	352.8	350.9	349.2	347.4	344.2	339.7	335.2	330.7	326.2	323.6
25°	343.3	340.7	338.2	335.6	333.1	329.2	323.8	318.6	313.3	308.1	304.8
27.5°	329.8	327.0	324.2	321.5	318.6	314.3	308.3	302.4	296.4	290.5	286.7
30°	320.3	317.3	314.2	311.2	308.2	303.4	297.0	290.7	284.2	277.8	273.8
32.5°	311.1	307.5	304.0	300.4	296.8	291.8	285.3	278.8	272.3	265.7	261.1
35°	295.8	291.8	287.6	283.6	279.5	273.9	266.9	259.8	252.9	245.8	240.7
37.5°	280.6	276.1	271.6	267.1	262.6	256.7	249.1	241.6	234.2	226.6	221.1
40°	269.9	265.1	260.3	255.5	250.7	244.5	236.7	228.9	221.2	213.4	207.7
42.5°	259.0	253.9	248.8	243.8	238.8	232.2	224.2	216.2	208.2	200.2	194.3
45°	241.9	236.5	231.1	225.8	220.4	213.5	205.1	196.7	188.3	179.9	174.3
47.5°	225.1	219.4	213.8	208.1	202.4	195.3	186.6	177.9	169.2	160.6	155.0
50°	213.0	207.4	201.7	196.0	190.4	183.1	174.3	165.5	156.7	147.9	142.4
52.5°	201.2	195.3	189.4	183.5	177.5	170.2	161.6	153.0	144.4	135.8	130.5
55°	183.9	177.7	171.4	165.2	158.9	151.5	142.8	134.2	125.6	116.9	112.2
57.5°	166.1	159.7	153.3	146.9	140.5	133.2	124.8	116.6	108.3	100.0	95.5
60°	154.0	147.7	141.2	134.8	128.4	121.1	112.9	104.6	96.4	88.2	84.1
62.5°	142.2	135.9	129.4	123.0	116.6	109.5	101.6	93.8	86.0	78.1	74.2
65°	124.1	117.6	111.2	104.7	98.2	91.4	84.2	77.0	69.8	62.6	59.9
67.5°	106.7	100.3	93.9	87.5	81.0	74.5	68.0	61.6	55.1	48.6	47.4
70°	94.7	88.4	82.1	76.0	69.7	63.8	58.3	52.8	47.3	41.7	41.0
72.5°	83.1	77.2	71.1	65.2	59.2	54.0	49.6	45.2	40.7	36.3	35.6
75°	66.2	60.6	55.1	49.4	43.8	39.7	36.9	34.2	31.5	28.8	28.2
77.5°	49.6	44.7	39.8	34.9	29.9	26.9	25.5	24.2	22.9	21.6	21.3
80°	39.2	35.2	31.1	27.0	22.9	20.4	19.6	18.9	18.1	17.3	17.0
82.5°	29.7	26.5	23.4	20.2	17.0	15.1	14.6	14.0	13.5	13.0	12.8
85°	15.4	13.8	12.1	10.5	8.8	7.8	7.5	7.3	7.1	6.8	6.8
87.5°	4.8	5.0	5.1	5.2	5.3	6.0	7.1	8.3	9.5	10.7	10.5
90°	1.2	4.4	7.5	10.8	13.9	18.5	24.3	30.1	36.0	41.8	41.3
92.5°	21.2	23.6	25.9	28.3	30.6	32.5	33.8	35.3	36.6	37.9	38.1
95°	62.1	64.7	67.4	70.0	72.7	74.3	74.9	75.3	75.9	76.4	76.4
97.5°	113.4	115.8	118.1	120.5	122.8	124.5	125.5	126.5	127.5	128.5	128.5
100°	151.7	153.8	155.9	158.0	160.2	161.6	162.4	163.2	164.0	164.8	164.8
102.5°	191.8	193.5	195.2	196.9	198.6	199.9	201.0	201.9	203.0	204.0	204.2
105°	256.7	257.5	258.3	259.1	259.9	260.6	261.2	261.7	262.2	262.8	263.2
107.5°	322.2	323.4	324.6	325.7	326.9	327.5	327.5	327.5	327.5	327.5	327.6
110°	364.2	365.8	367.4	369.0	370.6	371.5	371.5	371.5	371.5	371.5	371.5



TEST NUMBER: P331784-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	410.1	411.7	413.3	414.9	416.5	417.2	416.9	416.8	416.5	416.3	415.7
115°	477.7	479.3	480.9	482.5	484.1	484.6	484.1	483.5	483.0	482.5	482.2
117.5°	545.1	547.2	549.3	551.4	553.6	553.9	552.4	550.9	549.4	548.0	547.3
120°	589.9	592.1	594.2	596.4	598.5	598.5	596.4	594.2	592.1	589.9	589.9
122.5°	631.1	633.6	636.1	638.7	641.3	641.7	640.3	638.8	637.3	635.8	635.2
125°	695.1	697.4	699.8	702.2	704.6	705.4	704.6	703.9	703.1	702.2	701.4
127.5°	757.4	760.4	763.4	766.5	769.5	770.6	769.6	768.7	767.7	766.8	765.7
130°	796.5	800.0	803.5	806.9	810.4	811.8	811.3	810.8	810.2	809.7	809.2
132.5°	840.5	843.4	846.1	849.0	851.8	853.3	853.3	853.4	853.6	853.7	852.5
135°	899.3	902.2	905.1	908.0	910.9	912.7	913.2	913.8	914.3	914.8	914.6
137.5°	961.2	963.5	965.9	968.3	970.7	972.2	973.0	973.6	974.3	975.0	974.8
140°	998.4	1000.8	1003.2	1005.6	1008.0	1009.8	1011.1	1012.5	1013.8	1015.1	1015.1
142.5°	1036.6	1039.0	1041.4	1043.8	1046.2	1047.8	1048.7	1049.6	1050.5	1051.5	1051.6
145°	1091.5	1093.4	1095.3	1097.1	1099.0	1100.7	1102.3	1103.9	1105.5	1107.1	1107.3
147.5°	1140.5	1142.7	1144.9	1147.2	1149.5	1151.1	1152.1	1153.2	1154.3	1155.3	1156.0
150°	1173.9	1175.5	1177.2	1178.8	1180.4	1181.6	1182.7	1183.8	1184.9	1185.9	1186.7
152.5°	1203.6	1205.1	1206.7	1208.3	1210.0	1211.4	1212.7	1213.9	1215.2	1216.5	1217.5
155°	1248.0	1248.8	1249.6	1250.4	1251.2	1252.0	1252.8	1253.5	1254.3	1255.1	1256.5
157.5°	1285.9	1286.5	1287.1	1287.6	1288.1	1288.6	1289.1	1289.6	1290.1	1290.5	1292.3
160°	1308.9	1309.5	1310.0	1310.5	1311.1	1311.5	1311.7	1311.9	1312.2	1312.5	1314.1
162.5°	1329.9	1330.1	1330.2	1330.2	1330.4	1330.5	1330.8	1331.1	1331.3	1331.6	1333.4
165°	1357.9	1357.6	1357.3	1357.1	1356.8	1356.7	1356.7	1356.7	1356.7	1356.7	1358.5
167.5°	1381.2	1380.5	1379.7	1378.9	1378.1	1377.7	1377.6	1377.6	1377.5	1377.4	1379.3
170°	1393.7	1392.9	1392.1	1391.3	1390.5	1390.0	1389.7	1389.5	1389.2	1388.9	1390.8
172.5°	1402.3	1401.5	1400.7	1399.9	1399.2	1398.6	1398.4	1398.0	1397.8	1397.5	1399.4
175°	1412.8	1412.0	1411.2	1410.4	1409.6	1409.0	1408.4	1407.9	1407.4	1406.8	1408.7
177.5°	1417.1	1416.5	1415.9	1415.2	1414.6	1414.0	1413.6	1413.2	1412.8	1412.3	1413.6
180°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2



TEST NUMBER: P331784-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	395.8	396.4	397.0	397.3	397.2	397.0	396.9	396.8
5°	392.6	393.3	394.0	394.3	394.0	393.8	393.6	393.3
7.5°	386.3	386.5	386.7	386.6	386.2	385.7	385.3	384.9
10°	379.9	379.7	379.5	379.1	378.6	378.1	377.6	377.2
12.5°	372.6	372.2	371.8	371.1	370.3	369.6	368.8	368.0
15°	359.0	357.4	355.9	354.8	354.0	353.2	352.4	351.6
17.5°	343.6	341.7	340.0	338.4	337.0	335.6	334.2	332.9
20°	332.9	330.8	328.8	326.9	325.2	323.4	321.7	320.0
22.5°	321.1	318.5	315.9	313.9	312.6	311.3	310.0	308.7
25°	301.5	298.2	294.9	292.7	291.5	290.3	289.1	287.9
27.5°	282.8	279.0	275.2	272.4	270.5	268.5	266.6	264.7
30°	269.7	265.6	261.5	258.4	256.2	254.1	251.9	249.8
32.5°	256.4	251.8	247.1	243.8	241.8	239.7	237.7	235.7
35°	235.8	230.7	225.6	222.2	220.5	218.7	217.0	215.2
37.5°	215.6	210.0	204.5	200.7	198.7	196.6	194.6	192.6
40°	202.1	196.4	190.7	186.8	184.7	182.7	180.5	178.5
42.5°	188.4	182.5	176.7	172.8	170.7	168.7	166.7	164.7
45°	168.6	162.9	157.2	153.4	151.5	149.6	147.7	145.8
47.5°	149.2	143.6	138.0	134.3	132.5	130.8	129.0	127.3
50°	136.9	131.3	125.8	122.2	120.6	118.9	117.2	115.5
52.5°	125.2	119.9	114.5	111.1	109.6	108.0	106.4	104.9
55°	107.3	102.6	97.8	94.6	93.1	91.6	90.1	88.6
57.5°	91.2	86.7	82.4	79.5	78.3	77.0	75.7	74.4
60°	80.0	76.0	71.9	69.2	67.9	66.6	65.4	64.1
62.5°	70.3	66.5	62.6	60.2	59.4	58.7	57.9	57.1
65°	57.2	54.4	51.7	50.2	50.0	49.7	49.5	49.3
67.5°	46.2	44.9	43.6	42.9	42.6	42.4	42.1	41.9
70°	40.2	39.4	38.6	38.0	37.6	37.3	37.0	36.7
72.5°	34.9	34.2	33.6	33.2	33.0	32.8	32.6	32.4
75°	27.6	27.1	26.5	26.2	26.1	26.1	26.0	25.9
77.5°	20.9	20.6	20.3	20.1	20.0	19.8	19.7	19.6
80°	16.6	16.3	16.0	15.8	15.8	15.8	15.8	15.8
82.5°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	10.3	10.1	10.0	9.9	10.0	10.1	10.1	10.1
90°	40.7	40.2	39.7	39.5	39.8	40.1	40.3	40.6
92.5°	38.2	38.3	38.4	38.5	38.5	38.6	38.7	38.7
95°	76.4	76.4	76.4	76.1	75.7	75.1	74.5	74.1
97.5°	128.5	128.5	128.5	128.5	128.4	128.3	128.3	128.3
100°	164.8	164.8	164.8	164.7	164.4	164.1	163.9	163.6
102.5°	204.4	204.6	204.9	204.8	204.5	204.3	204.0	203.7
105°	263.8	264.4	264.8	265.1	265.1	265.1	265.1	265.1
107.5°	327.9	328.1	328.3	327.8	326.6	325.3	324.2	322.9
110°	371.5	371.5	371.5	371.0	370.2	369.4	368.6	367.8



TEST NUMBER: P331784-927

CATALOG NUMBER: S122RDIW-S290D1440U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	415.0	414.4	413.8	413.1	412.6	412.0	411.4	410.8
115°	482.0	481.6	481.4	480.9	480.1	479.3	478.5	477.7
117.5°	546.7	546.1	545.4	544.6	543.8	543.0	542.2	541.5
120°	589.9	589.9	589.9	589.5	588.7	588.0	587.2	586.4
122.5°	634.5	633.9	633.3	632.6	632.1	631.5	630.9	630.3
125°	700.6	699.8	699.0	698.5	698.2	698.0	697.8	697.4
127.5°	764.8	763.8	762.9	762.0	761.1	760.3	759.5	758.6
130°	808.7	808.1	807.6	806.8	805.7	804.7	803.6	802.6
132.5°	851.4	850.2	849.0	848.0	847.2	846.3	845.4	844.5
135°	914.3	914.0	913.8	913.2	912.4	911.6	910.9	910.1
137.5°	974.5	974.4	974.1	973.5	972.5	971.4	970.3	969.2
140°	1015.1	1015.1	1015.1	1014.6	1013.5	1012.5	1011.4	1010.3
142.5°	1051.9	1052.1	1052.3	1051.9	1050.8	1049.7	1048.7	1047.6
145°	1107.6	1107.9	1108.1	1107.7	1106.7	1105.6	1104.5	1103.5
147.5°	1156.5	1157.1	1157.7	1157.5	1156.4	1155.4	1154.4	1153.4
150°	1187.5	1188.3	1189.1	1189.1	1188.3	1187.5	1186.7	1185.9
152.5°	1218.5	1219.5	1220.5	1220.5	1219.5	1218.5	1217.5	1216.5
155°	1257.8	1259.2	1260.4	1260.8	1260.0	1259.2	1258.4	1257.6
157.5°	1294.1	1295.9	1297.8	1298.0	1296.7	1295.5	1294.2	1292.9
160°	1315.7	1317.2	1318.8	1319.1	1318.0	1317.0	1316.0	1314.9
162.5°	1335.2	1337.0	1338.8	1339.1	1337.8	1336.6	1335.3	1334.0
165°	1360.4	1362.2	1364.1	1364.4	1363.0	1361.8	1360.4	1359.1
167.5°	1381.2	1383.1	1384.9	1385.1	1383.8	1382.4	1381.0	1379.6
170°	1392.7	1394.5	1396.4	1396.5	1394.9	1393.3	1391.7	1390.1
172.5°	1401.2	1403.1	1404.9	1405.1	1403.5	1401.9	1400.3	1398.8
175°	1410.6	1412.4	1414.3	1414.4	1412.8	1411.2	1409.6	1408.0
177.5°	1414.9	1416.2	1417.5	1417.5	1416.2	1414.9	1413.6	1412.3
180°	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2	1415.2

(END OF REPORT)