

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: P331485-935

Luminaire Tested: **S122DIW-S290D1240U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331485-935
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-S290D1240U935-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5298.8 lumens
Efficiency: N/A
Efficacy: 113.7 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

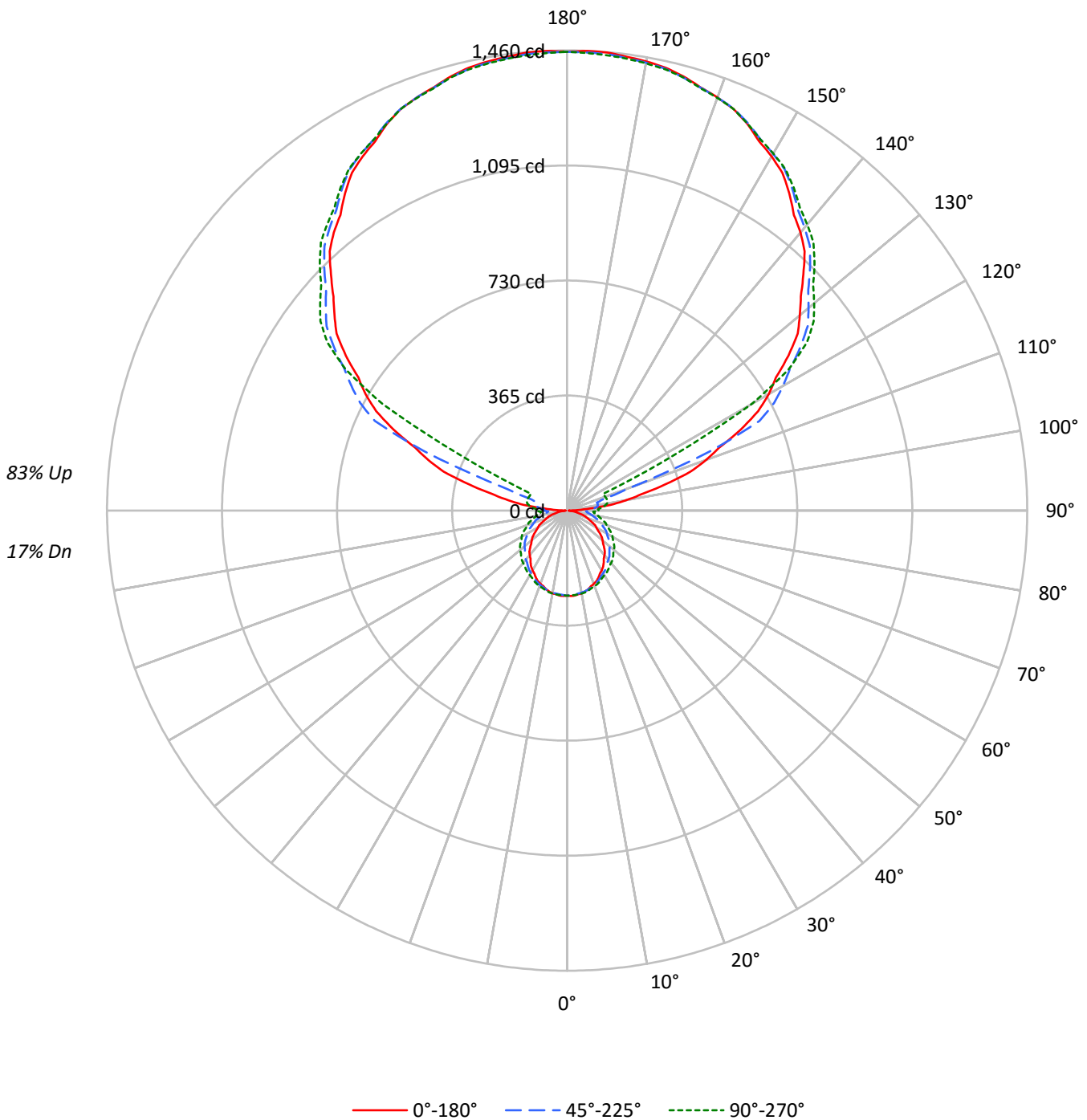
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331485-935

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Luminous Intensity Polar Plot





TEST NUMBER: P331485-935

CATALOG NUMBER: S122DIW-S290D1240U935-4F0-1E-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	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	90	86	82	78	79	75	72	69	56	54	52	38	37	36	22	22	21	13																												
2	82	74	68	63	71	65	60	56	49	45	43	33	31	30	19	18	17	11																												
3	74	65	58	52	65	57	51	47	43	39	35	29	27	25	17	15	14	9																												
4	68	57	50	44	59	51	44	39	38	33	30	26	23	21	15	13	12	8																												
5	62	51	43	37	54	45	38	33	34	29	25	23	20	18	13	12	10	6																												
6	57	45	37	32	50	40	33	29	30	25	22	21	18	15	12	10	9	6																												
7	52	41	33	28	46	36	29	25	27	22	19	19	16	14	11	9	8	5																												
8	48	37	29	24	42	32	26	22	24	20	17	17	14	12	10	8	7	4																												
9	45	33	26	21	39	29	23	19	22	18	15	16	13	11	9	8	6	4																												
10	42	30	23	19	37	27	21	17	20	16	13	14	11	9	8	7	6	4																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4358	4358	4358
5°	4379	4195	4179
10°	4352	4070	4026
15°	4290	3939	3863
20°	4215	3798	3707
25°	4141	3663	3565
30°	4034	3524	3423
35°	3928	3389	3323
40°	3818	3275	3223
45°	3709	3172	3137
50°	3596	3079	3053
55°	3474	2979	2968
60°	3329	2876	2878
65°	3174	2756	2769
70°	3001	2623	2653
75°	2784	2499	2544
80°	2445	2366	2436
85°	2110	2255	2350



TEST NUMBER: P331485-935

CATALOG NUMBER: S122DIW-S290D1240U935-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.6	0.5
10°-20°	73.3	1.4
20°-30°	111.1	2.1
30°-40°	135.3	2.6
40°-50°	145.6	2.7
50°-60°	141.4	2.7
60°-70°	123.5	2.3
70°-80°	95.1	1.8
80°-90°	67.4	1.3
90°-100°	92.5	1.7
100°-110°	210.2	4.0
110°-120°	497.1	9.4
120°-130°	797.5	15.1
130°-140°	840.5	15.9
140°-150°	777.5	14.7
150°-160°	624.4	11.8
160°-170°	402.3	7.6
170°-180°	138.5	2.6
0°-30°	210.0	4.0
0°-40°	345.4	6.5
0°-60°	632.4	11.9
0°-90°	918.3	17.3
90°-120°	799.8	15.1
90°-150°	3215.3	60.7
90°-180°	4380.0	82.7
0°-180°	5298.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	270	270	270	270	270	
5°	271	269	267	269	269	26
15°	258	259	259	262	262	73
25°	235	237	241	245	247	108
35°	202	209	216	225	228	126
45°	166	177	190	202	206	128
55°	127	142	162	175	181	114
65°	87	106	129	145	150	86
75°	48	70	95	111	117	51
85°	14	38	63	79	85	15
90°	5	39	73	93	100	6
95°	72	58	86	105	110	86
105°	322	348	98	122	132	344
115°	607	631	673	220	126	598
125°	857	872	903	921	928	764
135°	1060	1077	1090	1108	1110	818
145°	1229	1229	1246	1255	1252	769
155°	1353	1345	1357	1362	1354	623
165°	1426	1420	1423	1429	1423	403
175°	1459	1452	1454	1460	1450	139
180°	1456	1456	1456	1456	1456	



TEST NUMBER: P331485-935

CATALOG NUMBER: S122DIW-S290D1240U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	271.5	271.2	271.0	270.8	270.6	270.3	269.8	269.3	268.8	268.3	268.6
5°	270.7	270.4	270.2	269.9	269.6	269.2	268.7	268.2	267.7	267.2	267.7
7.5°	268.2	268.0	267.9	267.7	267.5	267.3	266.8	266.5	266.0	265.6	266.3
10°	266.4	266.2	266.0	265.9	265.7	265.4	265.2	264.9	264.7	264.4	265.1
12.5°	263.2	263.3	263.3	263.4	263.4	263.3	263.1	262.9	262.7	262.5	263.2
15°	258.1	258.3	258.5	258.6	258.8	258.9	258.9	258.9	258.9	258.9	259.7
17.5°	251.6	251.9	252.3	252.7	253.0	253.4	253.7	253.9	254.2	254.5	255.3
20°	247.2	247.6	248.1	248.5	248.9	249.3	249.7	250.0	250.4	250.7	251.7
22.5°	242.5	243.0	243.5	244.0	244.5	245.0	245.5	246.0	246.5	246.9	247.9
25°	234.7	235.3	235.9	236.5	237.1	237.8	238.6	239.4	240.1	240.9	241.9
27.5°	225.3	226.3	227.3	228.3	229.3	230.2	231.1	232.0	233.0	233.9	235.2
30°	219.0	220.2	221.3	222.4	223.5	224.7	225.8	227.0	228.1	229.2	230.6
32.5°	212.2	213.4	214.6	215.9	217.2	218.5	219.9	221.2	222.6	223.9	225.5
35°	202.2	203.7	205.2	206.6	208.1	209.7	211.4	213.0	214.6	216.3	218.2
37.5°	191.4	193.1	194.8	196.6	198.2	200.2	202.3	204.4	206.6	208.7	210.9
40°	184.3	186.1	188.0	189.9	191.8	194.0	196.3	198.7	201.0	203.4	205.6
42.5°	177.4	179.3	181.2	183.0	185.0	187.3	190.0	192.7	195.4	198.0	200.5
45°	165.8	168.2	170.6	172.9	175.2	177.9	181.0	184.0	187.0	190.1	192.8
47.5°	154.5	157.0	159.6	162.1	164.7	167.8	171.3	174.9	178.5	182.0	184.9
50°	146.7	149.4	152.1	154.7	157.5	160.7	164.7	168.6	172.5	176.4	179.3
52.5°	139.1	142.0	144.8	147.7	150.5	153.9	158.1	162.2	166.3	170.5	173.5
55°	127.1	130.3	133.4	136.5	139.7	143.4	148.0	152.5	157.0	161.5	164.7
57.5°	115.2	118.7	122.3	125.8	129.3	133.4	138.0	142.6	147.2	151.9	155.2
60°	106.8	110.6	114.3	118.0	121.7	126.1	131.0	136.0	140.9	145.9	149.2
62.5°	99.3	103.1	107.0	110.9	114.8	119.2	124.2	129.1	134.1	139.1	142.5
65°	86.8	91.1	95.3	99.6	103.8	108.6	113.7	118.8	124.0	129.1	132.7
67.5°	75.4	79.9	84.3	88.8	93.2	98.1	103.3	108.6	113.8	119.1	122.7
70°	67.2	71.8	76.3	80.8	85.3	90.3	95.7	101.1	106.5	111.8	115.6
72.5°	59.8	64.4	69.1	73.7	78.4	83.4	88.9	94.4	99.9	105.3	109.0
75°	48.1	53.0	57.9	62.7	67.6	72.8	78.4	83.9	89.5	95.1	98.8
77.5°	36.9	41.9	47.0	52.1	57.3	62.6	68.3	73.9	79.6	85.2	88.9
80°	29.4	34.6	40.0	45.2	50.5	56.1	61.6	67.3	72.9	78.6	82.2
82.5°	23.1	28.3	33.6	38.7	44.0	49.5	55.2	61.0	66.6	72.3	76.0
85°	14.1	19.5	24.9	30.2	35.6	41.1	46.7	52.3	57.8	63.4	67.0
87.5°	7.8	13.6	19.3	25.0	30.7	36.5	42.4	48.4	54.2	60.2	64.0
90°	5.0	12.6	20.2	27.8	35.4	43.0	50.4	57.9	65.3	72.7	77.3
92.5°	24.9	29.4	33.8	38.2	42.7	48.0	54.4	60.7	67.0	73.3	77.2
95°	71.5	67.9	64.3	60.7	57.0	58.6	65.5	72.3	79.2	86.0	90.5
97.5°	138.6	120.5	102.4	84.2	66.0	61.4	70.2	79.0	87.8	96.6	100.7
100°	189.2	160.3	131.5	102.6	73.8	63.8	72.6	81.5	90.3	99.2	104.3
102.5°	244.4	240.6	236.8	232.9	229.0	212.8	184.3	155.8	127.2	98.7	104.2
105°	322.1	331.7	341.2	350.8	360.3	335.4	276.0	216.6	157.2	97.9	103.5
107.5°	411.1	418.9	426.5	434.2	441.9	409.6	337.3	265.0	192.7	120.4	120.7
110°	468.1	474.8	481.5	488.1	494.7	466.4	403.0	339.7	276.2	212.8	192.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	522.1	527.9	533.7	539.5	545.4	541.9	529.3	516.6	503.9	491.3	408.6
115°	607.2	612.1	617.1	622.0	626.9	634.3	644.0	653.8	663.6	673.3	567.6
117.5°	682.9	687.9	692.9	698.0	703.1	709.5	717.1	724.8	732.4	740.0	716.4
120°	738.4	742.3	746.1	750.0	753.9	759.7	767.3	775.0	782.7	790.4	795.7
122.5°	785.6	789.5	793.3	797.1	801.0	806.8	814.7	822.5	830.3	838.3	842.3
125°	857.0	860.1	863.2	866.2	869.3	874.3	881.6	888.8	896.0	903.3	907.2
127.5°	922.1	925.4	928.7	932.0	935.3	939.7	945.3	950.8	956.4	962.0	966.5
130°	963.5	967.1	970.8	974.4	978.1	982.1	986.5	990.9	995.3	999.7	1004.4
132.5°	1005.6	1008.7	1011.8	1014.9	1018.0	1021.5	1025.5	1029.4	1033.5	1037.4	1041.6
135°	1060.0	1063.7	1067.5	1071.2	1075.0	1078.3	1081.2	1084.3	1087.2	1090.2	1094.3
137.5°	1115.3	1117.9	1120.5	1123.2	1125.8	1128.4	1131.2	1133.9	1136.8	1139.5	1143.4
140°	1151.6	1153.4	1155.1	1156.9	1158.7	1161.0	1163.7	1166.5	1169.2	1172.0	1175.4
142.5°	1181.9	1183.5	1185.1	1186.7	1188.3	1190.6	1193.6	1196.5	1199.5	1202.6	1205.6
145°	1229.1	1228.9	1228.6	1228.4	1228.2	1230.0	1234.1	1238.0	1242.0	1246.0	1248.1
147.5°	1270.6	1269.7	1268.9	1267.9	1267.0	1268.6	1272.5	1276.4	1280.4	1284.3	1285.6
150°	1297.6	1296.0	1294.3	1292.6	1291.0	1292.1	1295.8	1299.6	1303.3	1307.1	1308.5
152.5°	1320.3	1318.5	1316.6	1314.8	1313.0	1313.9	1317.4	1321.0	1324.6	1328.1	1329.6
155°	1353.4	1351.3	1349.2	1347.0	1345.0	1345.3	1348.2	1350.9	1353.8	1356.6	1358.0
157.5°	1379.3	1377.5	1375.7	1374.0	1372.2	1372.3	1374.2	1376.2	1378.2	1380.2	1381.7
160°	1394.5	1393.1	1391.6	1390.3	1388.9	1388.9	1390.3	1391.6	1393.1	1394.5	1395.9
162.5°	1408.0	1406.5	1405.2	1403.8	1402.3	1402.2	1403.4	1404.6	1405.9	1407.1	1408.7
165°	1426.1	1424.7	1423.2	1421.9	1420.5	1420.1	1420.8	1421.5	1422.2	1422.9	1424.5
167.5°	1439.6	1438.1	1436.8	1435.4	1433.9	1433.6	1434.3	1434.9	1435.5	1436.1	1437.8
170°	1447.2	1445.7	1444.3	1442.9	1441.5	1441.1	1441.5	1442.0	1442.4	1442.9	1444.6
172.5°	1452.2	1450.8	1449.4	1447.9	1446.6	1446.1	1446.6	1447.0	1447.5	1447.9	1449.6
175°	1458.7	1457.1	1455.4	1453.8	1452.2	1451.6	1452.1	1452.5	1453.0	1453.5	1455.1
177.5°	1459.7	1458.4	1457.2	1455.9	1454.5	1454.0	1454.1	1454.3	1454.5	1454.7	1456.0
180°	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	269.0	269.3	269.7	269.8	269.7	269.5	269.4	269.2
5°	268.2	268.7	269.2	269.4	269.3	269.2	269.1	269.1
7.5°	266.9	267.5	268.2	268.5	268.4	268.3	268.2	268.1
10°	265.8	266.5	267.2	267.5	267.4	267.3	267.3	267.2
12.5°	263.9	264.6	265.3	265.6	265.5	265.4	265.4	265.3
15°	260.5	261.3	262.1	262.4	262.3	262.3	262.2	262.1
17.5°	256.1	256.9	257.7	258.1	258.1	258.1	258.1	258.1
20°	252.6	253.6	254.5	255.0	255.0	255.0	255.0	255.0
22.5°	248.9	249.9	250.8	251.3	251.5	251.6	251.8	251.9
25°	243.1	244.1	245.1	245.7	246.0	246.2	246.5	246.8
27.5°	236.5	237.9	239.2	240.0	240.1	240.3	240.5	240.7
30°	232.0	233.4	234.8	235.6	235.8	236.1	236.3	236.6
32.5°	227.0	228.7	230.3	231.4	231.8	232.3	232.7	233.2
35°	220.2	222.1	223.9	225.2	225.8	226.4	227.0	227.6
37.5°	212.9	215.1	217.2	218.6	219.2	219.9	220.5	221.1
40°	207.9	210.2	212.4	214.0	214.7	215.5	216.3	217.1
42.5°	203.0	205.4	207.9	209.6	210.3	211.1	211.9	212.7
45°	195.4	198.2	200.9	202.7	203.5	204.4	205.3	206.1
47.5°	187.7	190.5	193.3	195.2	196.1	197.1	198.0	199.0
50°	182.3	185.3	188.2	190.2	191.1	192.1	193.0	194.0
52.5°	176.5	179.5	182.5	184.6	185.6	186.7	187.7	188.6
55°	167.8	170.9	174.1	176.2	177.3	178.5	179.6	180.7
57.5°	158.6	162.0	165.3	167.6	168.8	169.9	171.0	172.2
60°	152.5	155.8	159.1	161.4	162.6	163.8	165.1	166.3
62.5°	146.0	149.6	153.1	155.4	156.5	157.6	158.9	160.0
65°	136.2	139.7	143.4	145.7	146.8	147.9	149.0	150.2
67.5°	126.2	129.8	133.5	135.9	137.0	138.2	139.4	140.6
70°	119.3	123.0	126.8	129.2	130.3	131.3	132.3	133.4
72.5°	112.6	116.3	119.9	122.4	123.6	124.9	126.2	127.4
75°	102.5	106.2	110.0	112.4	113.6	114.7	115.8	116.9
77.5°	92.6	96.3	100.0	102.5	103.8	105.0	106.2	107.4
80°	85.9	89.5	93.2	95.7	96.9	98.1	99.3	100.5
82.5°	79.6	83.3	87.0	89.4	90.5	91.7	92.8	93.9
85°	70.7	74.3	78.0	80.4	81.6	82.8	84.0	85.2
87.5°	67.8	71.5	75.3	77.8	79.0	80.2	81.5	82.7
90°	82.0	86.6	91.3	94.4	95.8	97.4	98.9	100.4
92.5°	81.3	85.3	89.3	92.0	93.3	94.6	95.9	97.3
95°	95.0	99.4	103.9	106.6	107.4	108.2	109.0	109.9
97.5°	104.9	109.1	113.2	115.9	117.3	118.6	119.9	121.1
100°	109.3	114.4	119.5	122.8	124.2	125.6	127.0	128.5
102.5°	109.8	115.4	121.0	124.6	126.1	127.8	129.4	131.0
105°	109.1	114.8	120.4	124.1	126.0	127.9	129.8	131.6
107.5°	121.0	121.3	121.6	122.7	124.6	126.5	128.4	130.3
110°	171.6	151.0	130.4	121.0	122.9	124.8	126.7	128.5



TEST NUMBER: P331485-935

CATALOG NUMBER: S122DIW-S290D1240U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.1	243.5	160.8	120.4	122.1	123.8	125.5	127.3
115°	461.8	356.0	250.3	189.4	173.6	157.6	141.8	125.9
117.5°	692.8	669.1	645.5	606.4	551.9	497.4	442.9	388.5
120°	800.9	806.2	811.4	798.7	768.0	737.4	706.7	676.1
122.5°	846.4	850.4	854.5	853.8	848.5	843.2	837.8	832.5
125°	911.3	915.2	919.2	922.0	923.4	924.9	926.4	927.9
127.5°	971.0	975.6	980.2	982.8	983.8	984.6	985.6	986.4
130°	1009.0	1013.7	1018.3	1020.9	1021.3	1021.8	1022.3	1022.8
132.5°	1045.9	1050.1	1054.3	1056.6	1057.0	1057.6	1058.0	1058.4
135°	1098.5	1102.7	1106.8	1109.1	1109.2	1109.5	1109.7	1109.9
137.5°	1147.3	1151.2	1155.1	1156.9	1156.8	1156.5	1156.3	1156.2
140°	1179.0	1182.5	1185.9	1187.4	1186.7	1186.1	1185.4	1184.8
142.5°	1208.6	1211.6	1214.6	1215.8	1215.0	1214.4	1213.7	1212.9
145°	1250.3	1252.4	1254.6	1255.3	1254.6	1253.9	1253.1	1252.4
147.5°	1286.9	1288.1	1289.4	1289.7	1288.9	1288.1	1287.4	1286.6
150°	1309.8	1311.3	1312.7	1312.8	1311.6	1310.4	1309.2	1308.1
152.5°	1330.9	1332.3	1333.8	1333.7	1332.1	1330.6	1329.0	1327.5
155°	1359.3	1360.8	1362.2	1361.9	1360.0	1358.2	1356.3	1354.4
157.5°	1383.4	1384.9	1386.6	1386.4	1384.6	1382.8	1381.0	1379.1
160°	1397.3	1398.7	1400.1	1400.0	1398.4	1396.7	1395.1	1393.4
162.5°	1410.3	1411.9	1413.5	1413.2	1411.3	1409.2	1407.2	1405.2
165°	1426.2	1427.8	1429.4	1429.4	1427.8	1426.2	1424.5	1422.9
167.5°	1439.4	1441.1	1442.7	1442.5	1440.4	1438.3	1436.1	1434.1
170°	1446.2	1447.9	1449.5	1449.2	1447.2	1445.0	1442.9	1440.8
172.5°	1451.2	1452.9	1454.5	1454.3	1452.2	1450.1	1447.9	1445.9
175°	1456.7	1458.4	1460.0	1459.7	1457.3	1455.0	1452.6	1450.3
177.5°	1457.3	1458.6	1460.0	1459.7	1458.1	1456.4	1454.7	1453.0
180°	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5	1455.5

(END OF REPORT)