

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: P331488-927

Luminaire Tested: **S122DIW-S290D1240U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331488-927
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: S122DIW-S290D1240U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 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: 4360.6 lumens
Efficiency: N/A
Efficacy: 93.6 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: Semi-Indirect

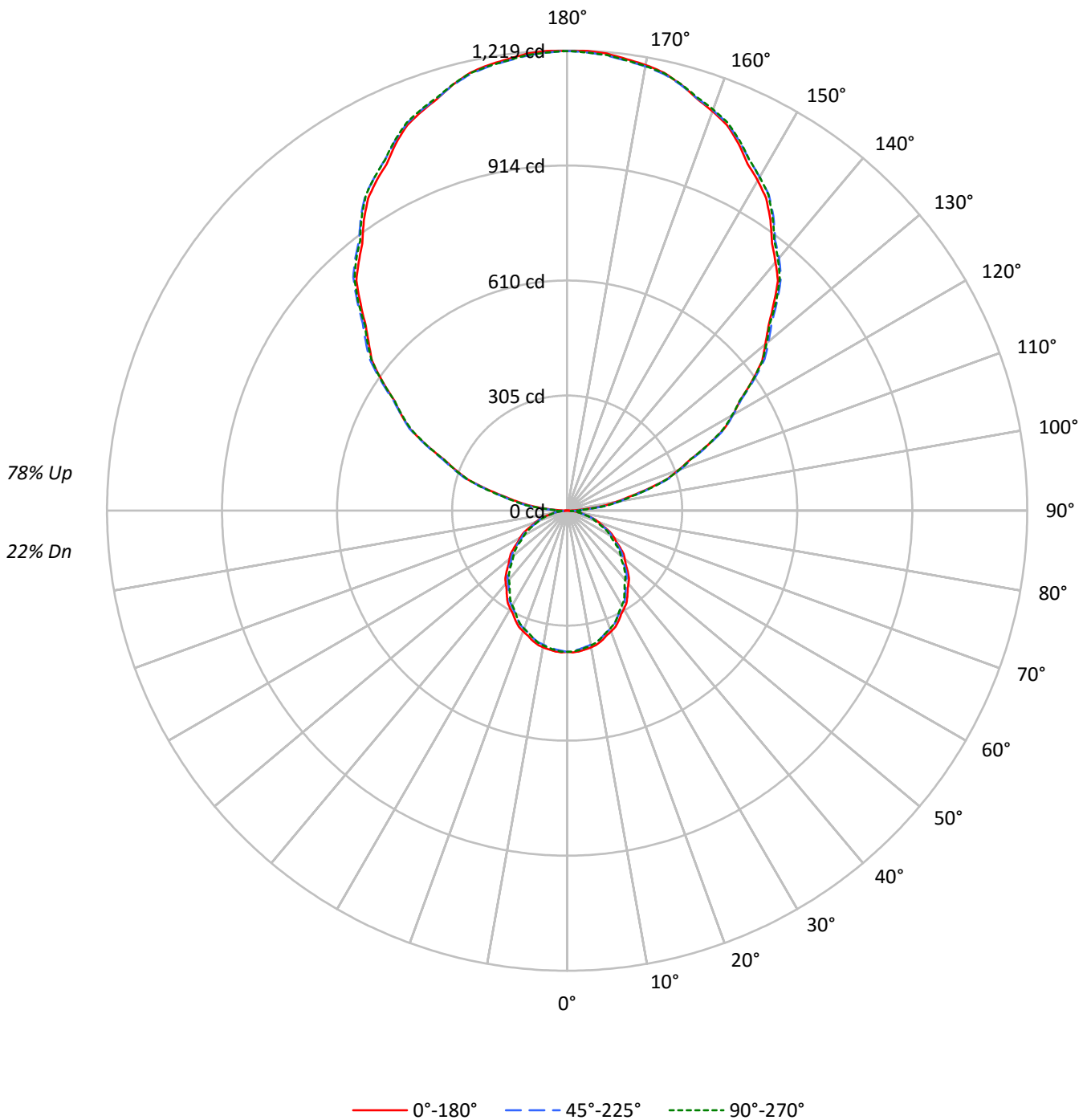
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331488-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30
1	91	87	84	80	81	78	74	72	59	57	55	42	41	40	27	26	25
2	83	76	70	65	74	68	63	59	52	49	46	37	35	33	23	22	21
3	76	67	60	54	67	59	54	49	46	42	38	33	30	28	21	19	18
4	69	59	52	46	61	53	46	41	40	36	33	29	26	24	19	17	16
5	63	52	45	39	56	47	40	35	36	31	28	26	23	21	17	15	14
6	58	47	39	34	51	42	35	30	32	28	24	23	20	18	15	13	12
7	54	42	35	29	47	38	31	26	29	24	21	21	18	16	14	12	11
8	50	38	31	26	44	34	28	23	26	22	19	19	16	14	13	11	9
9	46	35	27	23	41	31	25	21	24	20	16	18	15	12	12	10	8
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6042	6042	6042
5°	6065	5977	6015
10°	6030	5917	5946
15°	5954	5840	5835
20°	5849	5727	5720
25°	5744	5585	5585
30°	5610	5455	5407
35°	5483	5298	5219
40°	5324	5143	5044
45°	5167	4987	4864
50°	4999	4828	4657
55°	4822	4642	4467
60°	4624	4414	4253
65°	4413	4195	4000
70°	4145	3923	3734
75°	3768	3612	3525
80°	3347	3245	3078
85°	2723	2594	2334



TEST NUMBER: P331488-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.2	0.8
10°-20°	99.0	2.3
20°-30°	145.6	3.3
30°-40°	169.1	3.9
40°-50°	168.9	3.9
50°-60°	147.3	3.4
60°-70°	108.9	2.5
70°-80°	61.7	1.4
80°-90°	21.4	0.5
90°-100°	77.1	1.8
100°-110°	239.6	5.5
110°-120°	409.5	9.4
120°-130°	538.5	12.3
130°-140°	604.4	13.9
140°-150°	592.6	13.6
150°-160°	497.0	11.4
160°-170°	329.7	7.6
170°-180°	115.2	2.6
0°-30°	279.8	6.4
0°-40°	448.8	10.3
0°-60°	765.0	17.5
0°-90°	957.0	21.9
90°-120°	726.2	16.7
90°-150°	2461.6	56.5
90°-180°	3404.0	78.1
0°-180°	4360.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	374	373	369	372	371	35
15°	356	354	349	351	349	100
25°	322	319	314	314	314	148
35°	278	274	269	267	265	174
45°	226	224	218	215	213	175
55°	171	169	165	161	159	153
65°	116	113	110	107	105	114
75°	60	60	58	56	56	65
85°	15	14	14	13	13	17
90°	1	14	36	34	35	4
95°	53	63	66	66	64	61
105°	221	224	226	228	228	233
115°	411	417	415	414	411	406
125°	598	606	604	601	600	534
135°	774	784	787	786	783	597
145°	939	946	952	953	949	586
155°	1073	1076	1080	1084	1082	494
165°	1168	1167	1167	1173	1169	329
175°	1215	1212	1210	1216	1211	115
180°	1217	1217	1217	1217	1217	



TEST NUMBER: P331488-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	376.0	375.7	375.3	375.0	374.7	374.2	373.5	372.8	372.1	371.4	372.0
5°	374.2	373.9	373.6	373.3	373.0	372.4	371.5	370.7	369.7	368.8	369.5
7.5°	371.0	370.4	369.9	369.5	369.0	368.3	367.4	366.5	365.6	364.7	365.4
10°	367.8	367.3	366.7	366.1	365.5	364.8	363.8	362.9	361.9	360.9	361.6
12.5°	363.5	363.0	362.5	361.9	361.5	360.8	359.8	358.9	357.9	357.0	357.4
15°	356.2	355.8	355.3	354.8	354.3	353.6	352.5	351.5	350.5	349.4	349.7
17.5°	347.1	346.6	346.1	345.6	345.2	344.4	343.3	342.2	341.2	340.2	340.5
20°	340.4	339.9	339.5	339.0	338.5	337.7	336.6	335.5	334.4	333.3	333.5
22.5°	333.8	333.1	332.5	331.8	331.1	330.3	329.2	328.1	327.1	326.1	326.1
25°	322.4	321.8	321.2	320.5	319.9	318.9	317.5	316.2	314.8	313.5	313.6
27.5°	309.5	309.0	308.3	307.8	307.2	306.3	305.3	304.2	303.2	302.1	301.8
30°	300.9	300.2	299.6	299.0	298.3	297.4	296.2	295.0	293.7	292.6	292.3
32.5°	291.6	291.1	290.7	290.1	289.6	288.7	287.4	286.2	284.9	283.7	283.2
35°	278.2	277.3	276.6	275.8	275.0	273.9	272.7	271.4	270.1	268.8	268.3
37.5°	263.0	262.3	261.6	260.9	260.2	259.2	257.9	256.7	255.3	254.1	253.5
40°	252.6	252.0	251.4	250.7	250.1	249.1	247.8	246.5	245.3	244.0	243.3
42.5°	242.6	241.9	241.3	240.7	240.0	239.0	237.7	236.5	235.2	233.9	233.1
45°	226.3	225.8	225.2	224.7	224.1	223.2	222.0	220.9	219.7	218.4	217.5
47.5°	210.2	209.7	209.2	208.7	208.1	207.2	206.0	204.8	203.5	202.2	201.3
50°	199.0	198.6	198.2	197.8	197.4	196.6	195.5	194.4	193.3	192.2	191.1
52.5°	188.1	187.5	187.0	186.5	185.9	185.1	184.1	183.1	182.0	180.9	180.0
55°	171.3	170.8	170.3	169.8	169.4	168.7	167.7	166.8	165.8	164.9	163.8
57.5°	154.5	154.1	153.7	153.3	152.9	152.2	151.1	150.1	149.0	148.0	147.0
60°	143.2	142.9	142.6	142.3	142.0	141.2	140.1	139.0	137.8	136.7	135.9
62.5°	132.3	131.7	131.3	130.8	130.2	129.5	128.7	127.9	127.0	126.1	125.2
65°	115.5	115.0	114.5	114.1	113.6	113.0	112.2	111.4	110.6	109.8	109.0
67.5°	98.5	98.1	97.7	97.3	97.0	96.4	95.6	94.9	94.2	93.5	92.9
70°	87.8	87.5	87.1	86.8	86.5	86.0	85.3	84.6	83.8	83.1	82.5
72.5°	76.8	76.5	76.2	75.9	75.6	75.2	74.7	74.3	73.8	73.4	72.8
75°	60.4	60.3	60.1	60.0	59.8	59.6	59.2	58.7	58.3	57.9	57.4
77.5°	45.8	45.5	45.2	45.0	44.7	44.4	44.3	44.1	44.0	43.8	43.6
80°	36.0	35.9	35.8	35.7	35.6	35.6	35.4	35.3	35.1	34.9	34.7
82.5°	26.8	26.8	26.8	26.7	26.7	26.6	26.5	26.5	26.4	26.3	26.0
85°	14.7	14.7	14.6	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.8
87.5°	5.4	5.8	6.3	6.7	7.1	7.7	8.6	9.5	10.4	11.2	10.9
90°	1.0	3.8	6.5	9.3	12.0	15.8	20.9	25.9	30.9	36.0	35.5
92.5°	18.3	20.3	22.3	24.3	26.3	27.9	29.1	30.3	31.4	32.6	32.7
95°	53.4	55.7	58.0	60.3	62.6	63.9	64.4	64.8	65.3	65.8	65.8
97.5°	97.6	99.6	101.6	103.6	105.6	107.0	107.9	108.8	109.6	110.5	110.5
100°	130.5	132.3	134.1	135.9	137.8	139.0	139.7	140.4	141.1	141.7	141.7
102.5°	164.9	166.4	167.9	169.4	170.8	172.0	172.9	173.7	174.6	175.5	175.6
105°	220.9	221.5	222.2	222.9	223.6	224.2	224.6	225.1	225.5	226.0	226.4
107.5°	277.1	278.1	279.2	280.1	281.1	281.6	281.6	281.6	281.6	281.6	281.9
110°	313.3	314.7	316.0	317.4	318.8	319.5	319.5	319.5	319.5	319.5	319.5



TEST NUMBER: P331488-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	352.8	354.1	355.5	356.9	358.2	358.8	358.6	358.5	358.2	358.1	357.5
115°	410.9	412.3	413.6	414.9	416.4	416.8	416.4	415.9	415.4	414.9	414.8
117.5°	468.8	470.6	472.5	474.3	476.1	476.4	475.1	473.8	472.5	471.3	470.7
120°	507.4	509.2	511.1	512.9	514.8	514.8	512.9	511.1	509.2	507.4	507.4
122.5°	542.7	544.9	547.2	549.3	551.5	552.0	550.7	549.5	548.1	546.8	546.3
125°	597.8	599.8	601.9	604.0	606.0	606.7	606.0	605.4	604.7	604.0	603.3
127.5°	651.4	654.0	656.6	659.3	661.9	662.7	661.9	661.1	660.3	659.4	658.6
130°	685.2	688.1	691.1	694.0	697.0	698.2	697.8	697.4	696.9	696.4	695.9
132.5°	722.9	725.3	727.8	730.2	732.6	733.9	734.0	734.0	734.1	734.2	733.2
135°	773.5	775.9	778.5	781.0	783.5	785.0	785.4	785.9	786.4	786.8	786.6
137.5°	826.6	828.7	830.8	832.8	834.9	836.2	836.8	837.4	838.0	838.6	838.4
140°	858.7	860.8	862.8	864.9	867.0	868.5	869.7	870.8	872.0	873.1	873.1
142.5°	891.6	893.7	895.7	897.8	899.8	901.2	902.0	902.8	903.6	904.4	904.5
145°	938.8	940.5	942.1	943.6	945.2	946.7	948.1	949.4	950.9	952.2	952.4
147.5°	981.0	982.9	984.8	986.7	988.6	990.1	990.9	991.9	992.8	993.7	994.2
150°	1009.7	1011.1	1012.5	1013.8	1015.2	1016.4	1017.2	1018.2	1019.1	1020.0	1020.6
152.5°	1035.2	1036.6	1037.9	1039.3	1040.7	1041.9	1043.0	1044.1	1045.2	1046.3	1047.2
155°	1073.4	1074.1	1074.8	1075.5	1076.2	1076.8	1077.5	1078.2	1078.9	1079.6	1080.7
157.5°	1106.0	1106.5	1107.0	1107.5	1107.9	1108.3	1108.7	1109.1	1109.5	1110.0	1111.5
160°	1125.8	1126.2	1126.7	1127.2	1127.6	1128.0	1128.1	1128.4	1128.6	1128.9	1130.2
162.5°	1143.8	1144.0	1144.1	1144.1	1144.2	1144.4	1144.6	1144.9	1145.1	1145.3	1146.8
165°	1167.9	1167.7	1167.4	1167.2	1167.0	1166.9	1166.9	1166.9	1166.9	1166.9	1168.5
167.5°	1188.0	1187.3	1186.7	1186.0	1185.3	1184.9	1184.9	1184.9	1184.8	1184.7	1186.4
170°	1198.7	1198.0	1197.4	1196.7	1196.0	1195.6	1195.3	1195.1	1194.8	1194.6	1196.2
172.5°	1206.1	1205.5	1204.8	1204.0	1203.4	1202.9	1202.7	1202.5	1202.2	1202.0	1203.6
175°	1215.1	1214.5	1213.8	1213.1	1212.4	1211.9	1211.4	1210.9	1210.5	1210.0	1211.6
177.5°	1218.9	1218.3	1217.7	1217.2	1216.6	1216.2	1215.8	1215.4	1215.1	1214.7	1215.8
180°	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2



TEST NUMBER: P331488-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	372.6	373.3	373.9	374.2	374.1	373.9	373.8	373.7
5°	370.2	370.8	371.5	371.7	371.5	371.4	371.2	371.1
7.5°	366.0	366.6	367.3	367.5	367.3	367.1	366.9	366.8
10°	362.3	362.9	363.5	363.7	363.5	363.2	363.0	362.7
12.5°	357.8	358.2	358.7	358.9	358.7	358.5	358.3	358.1
15°	350.1	350.4	350.7	350.7	350.3	349.9	349.5	349.1
17.5°	340.9	341.3	341.6	341.6	341.2	340.9	340.5	340.1
20°	333.7	334.0	334.2	334.1	333.8	333.5	333.2	332.9
22.5°	326.1	326.2	326.2	326.1	326.0	325.7	325.6	325.4
25°	313.8	313.9	314.1	314.1	313.9	313.8	313.6	313.5
27.5°	301.6	301.3	301.1	300.8	300.4	300.0	299.7	299.3
30°	292.1	291.8	291.6	291.4	291.0	290.7	290.4	290.0
32.5°	282.8	282.3	281.9	281.5	281.2	280.9	280.6	280.3
35°	267.8	267.4	266.9	266.5	266.1	265.7	265.3	264.8
37.5°	252.9	252.3	251.7	251.2	250.8	250.4	250.1	249.7
40°	242.6	241.9	241.1	240.6	240.3	240.0	239.6	239.3
42.5°	232.3	231.6	230.8	230.1	229.7	229.3	228.9	228.4
45°	216.7	215.8	214.9	214.3	214.0	213.7	213.3	213.0
47.5°	200.4	199.5	198.5	197.8	197.4	196.9	196.5	196.0
50°	190.0	188.8	187.7	187.0	186.6	186.2	185.8	185.4
52.5°	179.1	178.2	177.2	176.5	175.9	175.5	174.9	174.4
55°	162.9	161.9	161.0	160.3	159.9	159.5	159.1	158.7
57.5°	146.1	145.1	144.2	143.5	143.3	143.0	142.7	142.4
60°	135.0	134.1	133.2	132.7	132.5	132.2	132.0	131.7
62.5°	124.5	123.7	122.9	122.3	122.0	121.7	121.4	121.0
65°	108.3	107.6	106.9	106.3	105.9	105.5	105.1	104.7
67.5°	92.4	91.8	91.3	90.8	90.5	90.2	89.8	89.5
70°	82.0	81.4	80.9	80.5	80.2	79.8	79.5	79.1
72.5°	72.2	71.7	71.1	70.7	70.4	70.2	69.9	69.6
75°	57.0	56.5	56.0	55.8	56.0	56.2	56.3	56.5
77.5°	43.3	43.1	42.9	42.6	42.4	42.2	42.0	41.7
80°	34.5	34.2	34.0	33.7	33.6	33.4	33.3	33.1
82.5°	25.7	25.3	25.0	24.9	24.9	24.8	24.8	24.8
85°	13.5	13.3	13.1	12.9	12.8	12.8	12.7	12.6
87.5°	10.6	10.4	10.1	9.9	9.9	9.9	9.9	9.9
90°	35.0	34.6	34.1	34.0	34.2	34.5	34.7	34.9
92.5°	32.9	33.0	33.0	33.1	33.1	33.2	33.3	33.3
95°	65.8	65.8	65.8	65.5	65.0	64.6	64.2	63.7
97.5°	110.5	110.5	110.5	110.5	110.4	110.4	110.4	110.4
100°	141.7	141.7	141.7	141.6	141.4	141.2	140.9	140.7
102.5°	175.8	176.0	176.2	176.2	175.9	175.7	175.5	175.2
105°	226.9	227.4	227.8	228.1	228.1	228.1	228.1	228.1
107.5°	282.0	282.2	282.4	281.9	280.9	279.9	278.8	277.7
110°	319.5	319.5	319.5	319.1	318.5	317.7	317.0	316.4



TEST NUMBER: P331488-927

CATALOG NUMBER: S122DIW-S290D1240U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	357.0	356.4	355.8	355.4	354.8	354.3	353.9	353.3
115°	414.5	414.3	414.1	413.6	413.0	412.3	411.5	410.9
117.5°	470.2	469.6	469.1	468.5	467.8	467.1	466.4	465.7
120°	507.4	507.4	507.4	507.1	506.4	505.7	505.0	504.4
122.5°	545.8	545.3	544.7	544.2	543.7	543.1	542.6	542.2
125°	602.6	601.9	601.3	600.8	600.6	600.3	600.1	599.8
127.5°	657.8	657.0	656.2	655.4	654.7	653.9	653.2	652.4
130°	695.5	695.1	694.6	694.0	693.0	692.1	691.2	690.2
132.5°	732.2	731.2	730.2	729.4	728.6	727.9	727.1	726.4
135°	786.4	786.2	785.9	785.4	784.7	784.1	783.4	782.7
137.5°	838.2	838.0	837.9	837.3	836.4	835.5	834.6	833.7
140°	873.1	873.1	873.1	872.7	871.7	870.8	869.9	869.0
142.5°	904.7	904.9	905.1	904.7	903.8	902.9	902.0	901.0
145°	952.7	952.9	953.1	952.8	951.9	950.9	950.1	949.1
147.5°	994.7	995.2	995.7	995.5	994.7	993.8	992.9	992.0
150°	1021.4	1022.1	1022.7	1022.7	1022.1	1021.4	1020.6	1020.0
152.5°	1048.1	1048.8	1049.7	1049.7	1048.8	1048.1	1047.2	1046.3
155°	1081.9	1083.0	1084.1	1084.3	1083.7	1083.0	1082.3	1081.6
157.5°	1113.1	1114.6	1116.2	1116.4	1115.3	1114.2	1113.1	1112.0
160°	1131.6	1133.0	1134.3	1134.6	1133.7	1132.7	1131.9	1130.9
162.5°	1148.4	1149.9	1151.5	1151.8	1150.6	1149.5	1148.4	1147.4
165°	1170.1	1171.6	1173.3	1173.5	1172.4	1171.2	1170.1	1168.9
167.5°	1188.0	1189.5	1191.1	1191.4	1190.2	1189.0	1187.8	1186.6
170°	1197.8	1199.4	1201.0	1201.1	1199.8	1198.4	1197.0	1195.6
172.5°	1205.2	1206.8	1208.4	1208.5	1207.1	1205.8	1204.4	1203.0
175°	1213.2	1214.8	1216.4	1216.6	1215.1	1213.8	1212.4	1211.0
177.5°	1217.0	1218.1	1219.1	1219.1	1218.1	1217.0	1215.8	1214.7
180°	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2	1217.2

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