

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: P331279-940

Luminaire Tested: **S122DIP-S290D1080U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331279-940
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: S122DIP-S290D1080U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4908.7 lumens
Efficiency: N/A
Efficacy: 116.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

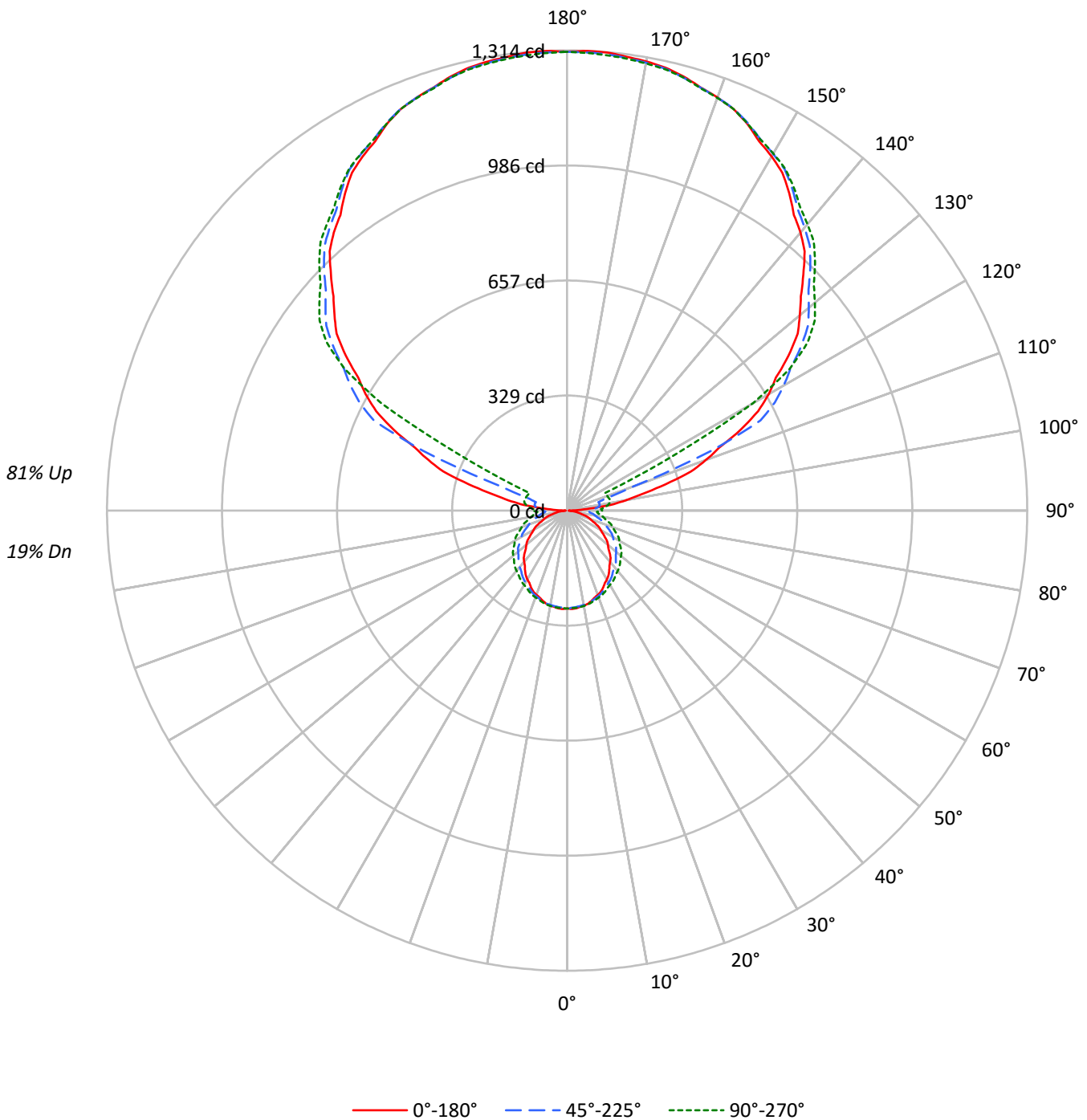
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331279-940

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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	90	86	82	78	79	76	73	70	57	55	53	40	38	37	24	23	22	15
2	82	75	69	64	72	66	61	57	50	46	43	34	32	31	21	19	18	12
3	75	65	58	53	65	58	52	47	43	39	36	30	28	25	18	17	15	10
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	14	13	8
5	62	51	43	37	55	45	38	33	34	29	26	24	21	18	14	13	11	7
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10	6
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	12	10	9	6
8	49	37	29	24	43	33	26	22	25	20	17	18	14	12	11	9	8	5
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7	4
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.5	0.5
10°-20°	75.9	1.5
20°-30°	115.1	2.3
30°-40°	140.2	2.9
40°-50°	150.8	3.1
50°-60°	146.5	3.0
60°-70°	127.9	2.6
70°-80°	98.4	2.0
80°-90°	69.3	1.4
90°-100°	89.2	1.8
100°-110°	193.5	3.9
110°-120°	450.3	9.2
120°-130°	719.4	14.7
130°-140°	757.1	15.4
140°-150°	699.8	14.3
150°-160°	562.0	11.4
160°-170°	362.1	7.4
170°-180°	124.6	2.5
0°-30°	217.5	4.4
0°-40°	357.7	7.3
0°-60°	654.9	13.3
0°-90°	950.6	19.4
90°-120°	733.0	14.9
90°-150°	2909.4	59.3
90°-180°	3958.0	80.6
0°-180°	4908.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	5	39	72	93	100	6
95°	65	55	84	103	108	78
105°	290	315	93	116	126	310
115°	547	568	609	203	119	538
125°	772	785	815	832	839	688
135°	954	969	982	999	1001	737
145°	1106	1106	1121	1130	1128	692
155°	1218	1211	1221	1226	1219	561
165°	1284	1278	1281	1287	1281	362
175°	1313	1307	1308	1314	1305	125
180°	1310	1310	1310	1310	1310	



TEST NUMBER: P331279-940

CATALOG NUMBER: S122DIP-S290D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.1	14.0	19.8	25.6	31.5	37.4	43.5	49.6	55.7	61.8	65.7
90°	5.0	12.6	20.1	27.6	35.1	42.6	50.1	57.5	65.0	72.4	77.0
92.5°	22.9	27.6	32.2	36.8	41.5	47.0	53.4	59.7	66.2	72.6	76.6
95°	64.8	62.2	59.4	56.7	53.9	56.1	63.0	69.8	76.7	83.6	88.0
97.5°	125.1	109.3	93.5	77.7	61.8	58.2	66.8	75.3	84.0	92.6	96.8
100°	170.6	145.1	119.6	94.1	68.5	60.0	68.7	77.3	86.0	94.5	99.5
102.5°	220.3	217.3	214.2	211.2	208.0	194.0	169.0	143.9	118.9	93.8	99.2
105°	290.2	299.2	308.1	317.0	325.9	304.0	251.1	198.3	145.5	92.6	98.1
107.5°	370.3	377.5	384.7	391.9	399.0	370.4	305.9	241.5	176.9	112.4	113.2
110°	421.5	427.8	434.0	440.2	446.5	421.3	364.9	308.4	251.9	195.5	177.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	470.1	475.5	481.0	486.3	491.8	489.1	478.2	467.4	456.6	445.7	371.8
115°	546.7	551.3	555.8	560.4	565.0	571.9	581.2	590.6	599.9	609.2	514.3
117.5°	614.7	619.4	624.0	628.7	633.3	639.4	646.7	654.1	661.5	668.8	647.8
120°	664.8	668.2	671.8	675.3	678.9	684.3	691.7	699.1	706.5	713.9	718.9
122.5°	707.2	710.7	714.2	717.6	721.1	726.7	734.1	741.6	749.1	756.7	760.6
125°	771.5	774.2	776.9	779.7	782.4	787.2	794.2	801.0	807.9	814.8	818.7
127.5°	830.1	833.0	836.0	838.9	841.9	846.0	851.3	856.6	861.9	867.2	871.6
130°	867.2	870.5	873.8	877.1	880.3	884.0	888.3	892.5	896.7	900.9	905.4
132.5°	905.2	907.9	910.7	913.5	916.2	919.5	923.3	927.0	930.9	934.6	938.7
135°	954.0	957.4	960.7	964.1	967.5	970.6	973.4	976.2	979.0	981.8	985.8
137.5°	1003.9	1006.2	1008.5	1010.9	1013.3	1015.7	1018.2	1020.7	1023.3	1025.8	1029.6
140°	1036.5	1038.1	1039.6	1041.3	1042.9	1044.9	1047.4	1049.9	1052.4	1054.9	1058.3
142.5°	1063.8	1065.2	1066.7	1068.1	1069.5	1071.6	1074.2	1076.9	1079.6	1082.4	1085.2
145°	1106.3	1106.0	1105.8	1105.6	1105.4	1107.1	1110.6	1114.2	1117.8	1121.4	1123.4
147.5°	1143.6	1142.8	1142.0	1141.2	1140.4	1141.7	1145.3	1148.8	1152.4	1155.9	1157.1
150°	1167.9	1166.4	1164.9	1163.4	1162.0	1162.9	1166.3	1169.7	1173.0	1176.3	1177.7
152.5°	1188.3	1186.7	1185.0	1183.4	1181.8	1182.5	1185.7	1188.9	1192.1	1195.3	1196.6
155°	1218.1	1216.2	1214.3	1212.4	1210.5	1210.9	1213.4	1215.8	1218.4	1220.9	1222.2
157.5°	1241.4	1239.8	1238.2	1236.6	1235.0	1235.1	1236.9	1238.6	1240.4	1242.2	1243.6
160°	1255.1	1253.8	1252.5	1251.2	1250.0	1250.0	1251.2	1252.5	1253.8	1255.1	1256.3
162.5°	1267.2	1266.0	1264.6	1263.4	1262.1	1262.0	1263.1	1264.3	1265.3	1266.4	1267.8
165°	1283.5	1282.2	1280.9	1279.7	1278.4	1278.1	1278.7	1279.4	1280.1	1280.7	1282.1
167.5°	1295.7	1294.4	1293.1	1291.8	1290.6	1290.2	1290.8	1291.4	1292.0	1292.6	1294.1
170°	1302.4	1301.2	1299.9	1298.7	1297.4	1297.0	1297.4	1297.8	1298.2	1298.7	1300.1
172.5°	1307.0	1305.7	1304.5	1303.2	1302.0	1301.5	1302.0	1302.3	1302.8	1303.2	1304.7
175°	1312.9	1311.4	1309.9	1308.5	1307.0	1306.4	1306.9	1307.3	1307.7	1308.1	1309.7
177.5°	1313.8	1312.7	1311.4	1310.3	1309.1	1308.6	1308.8	1308.9	1309.1	1309.3	1310.5
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	69.6	73.5	77.3	79.9	81.1	82.4	83.6	84.8
90°	81.8	86.4	91.0	94.2	95.6	97.1	98.6	100.1
92.5°	80.7	84.8	88.8	91.6	92.9	94.3	95.6	96.9
95°	92.5	97.0	101.5	104.2	105.0	105.8	106.7	107.6
97.5°	100.9	105.1	109.2	112.0	113.3	114.7	115.9	117.3
100°	104.6	109.6	114.6	117.8	119.2	120.6	122.1	123.5
102.5°	104.7	110.1	115.6	119.1	120.6	122.3	123.9	125.5
105°	103.6	109.1	114.5	118.2	120.0	121.8	123.7	125.6
107.5°	113.8	114.5	115.1	116.4	118.2	120.0	121.9	123.7
110°	159.1	140.9	122.7	114.6	116.4	118.2	120.0	121.9



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CATALOG NUMBER: S122DIP-S290D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	297.8	223.8	149.9	113.7	115.4	117.1	118.7	120.4
115°	419.5	324.7	229.9	175.3	161.1	147.0	132.8	118.7
117.5°	627.0	606.0	585.1	550.2	501.2	452.3	403.4	354.5
120°	724.0	729.0	734.1	722.8	695.4	668.0	640.5	613.1
122.5°	764.6	768.6	772.5	772.1	767.5	762.9	758.1	753.5
125°	822.6	826.5	830.4	833.0	834.6	836.0	837.4	838.8
127.5°	876.0	880.4	884.8	887.4	888.3	889.2	890.1	891.1
130°	909.9	914.4	918.8	921.3	921.9	922.3	922.8	923.4
132.5°	942.7	946.8	950.9	953.1	953.7	954.2	954.7	955.2
135°	989.8	993.7	997.7	999.9	1000.2	1000.5	1000.8	1001.1
137.5°	1033.3	1037.1	1040.7	1042.6	1042.5	1042.3	1042.2	1042.1
140°	1061.6	1064.9	1068.3	1069.7	1069.2	1068.6	1068.1	1067.6
142.5°	1088.1	1090.9	1093.9	1095.0	1094.4	1093.8	1093.2	1092.6
145°	1125.4	1127.5	1129.4	1130.2	1129.5	1129.0	1128.4	1127.7
147.5°	1158.2	1159.4	1160.6	1160.8	1160.1	1159.5	1158.8	1158.2
150°	1178.9	1180.2	1181.4	1181.5	1180.4	1179.5	1178.4	1177.3
152.5°	1197.8	1199.2	1200.4	1200.3	1198.9	1197.6	1196.1	1194.8
155°	1223.4	1224.8	1226.0	1225.7	1224.1	1222.4	1220.8	1219.1
157.5°	1245.0	1246.4	1247.9	1247.8	1246.2	1244.5	1242.9	1241.2
160°	1257.6	1258.8	1260.1	1260.0	1258.6	1257.0	1255.6	1254.1
162.5°	1269.3	1270.7	1272.2	1271.9	1270.2	1268.4	1266.5	1264.7
165°	1283.6	1285.0	1286.6	1286.6	1285.0	1283.6	1282.1	1280.7
167.5°	1295.6	1297.0	1298.5	1298.2	1296.4	1294.5	1292.6	1290.7
170°	1301.6	1303.1	1304.6	1304.3	1302.4	1300.6	1298.7	1296.7
172.5°	1306.2	1307.6	1309.1	1308.9	1307.0	1305.1	1303.2	1301.3
175°	1311.1	1312.6	1314.0	1313.8	1311.6	1309.5	1307.4	1305.3
177.5°	1311.6	1312.8	1314.0	1313.8	1312.3	1310.8	1309.3	1307.8
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0

(END OF REPORT)