

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

Luminaire Tested: **SA2XXDIP-C290D1080U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331279
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D1080U835-4F0-1E-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

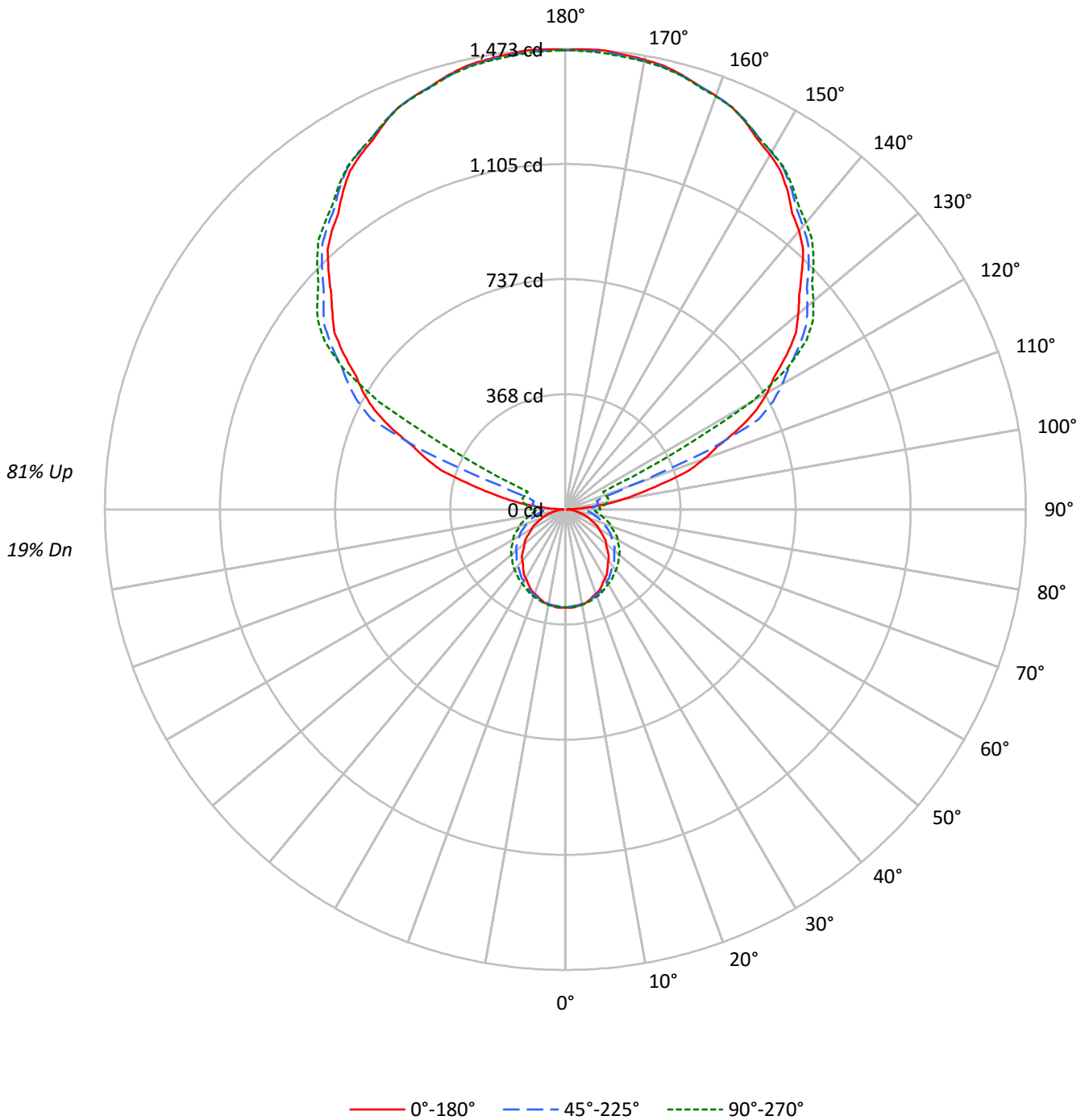
Lumens per Lamp: N/A
Luminaire Lumens: 5504.8 lumens
Efficiency: N/A
Efficacy: 130.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (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



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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	50	30	10	0	
RCR																						
0	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19				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°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.5
10°-20°	85.2	1.5
20°-30°	129.1	2.3
30°-40°	157.2	2.9
40°-50°	169.1	3.1
50°-60°	164.2	3.0
60°-70°	143.4	2.6
70°-80°	110.4	2.0
80°-90°	77.7	1.4
90°-100°	100.1	1.8
100°-110°	217.0	3.9
110°-120°	505.0	9.2
120°-130°	806.7	14.7
130°-140°	849.1	15.4
140°-150°	784.8	14.3
150°-160°	630.2	11.4
160°-170°	406.1	7.4
170°-180°	139.8	2.5
0°-30°	243.9	4.4
0°-40°	401.1	7.3
0°-60°	734.5	13.3
0°-90°	1066.0	19.4
90°-120°	822.0	14.9
90°-150°	3262.7	59.3
90°-180°	4439.0	80.6
0°-180°	5504.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	6	44	81	104	112	6
95°	73	62	94	115	121	87
105°	325	353	104	130	141	348
115°	613	638	683	227	133	603
125°	865	880	914	933	941	771
135°	1070	1087	1101	1120	1123	826
145°	1241	1241	1258	1267	1265	776
155°	1366	1358	1369	1375	1367	629
165°	1439	1434	1436	1443	1436	406
175°	1472	1465	1467	1473	1464	140
180°	1469	1469	1469	1469	1469	



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CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.1	15.7	22.2	28.7	35.3	41.9	48.8	55.6	62.5	69.3	73.7
90°	5.6	14.1	22.5	31.0	39.4	47.8	56.2	64.5	72.9	81.2	86.4
92.5°	25.7	30.9	36.1	41.3	46.5	52.7	59.9	67.0	74.2	81.4	85.9
95°	72.7	69.7	66.6	63.6	60.5	62.9	70.6	78.3	86.0	93.7	98.7
97.5°	140.3	122.6	104.8	87.1	69.3	65.3	74.9	84.5	94.2	103.8	108.5
100°	191.3	162.7	134.1	105.5	76.8	67.3	77.0	86.7	96.4	106.0	111.6
102.5°	247.1	243.7	240.2	236.8	233.3	217.6	189.5	161.4	133.3	105.2	111.3
105°	325.4	335.5	345.5	355.5	365.5	340.9	281.6	222.4	163.2	103.9	110.0
107.5°	415.3	423.3	431.4	439.5	447.5	415.4	343.1	270.8	198.4	126.1	126.9
110°	472.7	479.7	486.7	493.7	500.7	472.5	409.2	345.8	282.5	219.2	198.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	527.2	533.3	539.4	545.4	551.5	548.5	536.3	524.2	512.0	499.8	416.9
115°	613.1	618.2	623.3	628.4	633.6	641.4	651.8	662.3	672.7	683.2	576.8
117.5°	689.4	694.6	699.8	705.0	710.2	717.0	725.2	733.5	741.8	750.0	726.5
120°	745.5	749.4	753.4	757.3	761.3	767.4	775.7	784.0	792.3	800.6	806.2
122.5°	793.1	797.0	800.9	804.8	808.7	814.9	823.3	831.7	840.1	848.6	853.0
125°	865.2	868.2	871.3	874.4	877.4	882.8	890.6	898.3	906.0	913.7	918.1
127.5°	930.9	934.2	937.5	940.8	944.1	948.7	954.7	960.6	966.6	972.5	977.4
130°	972.5	976.2	979.9	983.6	987.2	991.4	996.2	1000.9	1005.6	1010.3	1015.3
132.5°	1015.1	1018.2	1021.3	1024.4	1027.5	1031.2	1035.4	1039.6	1043.9	1048.1	1052.7
135°	1069.9	1073.7	1077.4	1081.2	1085.0	1088.5	1091.6	1094.7	1097.9	1101.0	1105.5
137.5°	1125.8	1128.4	1131.0	1133.7	1136.3	1139.0	1141.9	1144.7	1147.6	1150.4	1154.6
140°	1162.4	1164.2	1165.9	1167.7	1169.5	1171.8	1174.6	1177.4	1180.2	1183.0	1186.8
142.5°	1193.0	1194.6	1196.2	1197.8	1199.4	1201.7	1204.7	1207.7	1210.7	1213.8	1217.0
145°	1240.6	1240.3	1240.1	1239.9	1239.6	1241.5	1245.5	1249.5	1253.6	1257.6	1259.8
147.5°	1282.5	1281.6	1280.7	1279.8	1278.9	1280.4	1284.4	1288.3	1292.3	1296.3	1297.6
150°	1309.7	1308.0	1306.4	1304.7	1303.1	1304.1	1307.9	1311.7	1315.5	1319.2	1320.7
152.5°	1332.6	1330.8	1328.9	1327.1	1325.3	1326.1	1329.7	1333.3	1336.9	1340.5	1341.9
155°	1366.0	1363.9	1361.8	1359.6	1357.5	1357.9	1360.7	1363.5	1366.4	1369.2	1370.6
157.5°	1392.2	1390.4	1388.6	1386.8	1385.0	1385.1	1387.1	1389.0	1391.0	1393.0	1394.6
160°	1407.5	1406.1	1404.6	1403.2	1401.8	1401.8	1403.2	1404.6	1406.1	1407.5	1408.9
162.5°	1421.1	1419.7	1418.2	1416.8	1415.4	1415.3	1416.5	1417.8	1419.0	1420.2	1421.8
165°	1439.4	1437.9	1436.5	1435.1	1433.7	1433.3	1434.0	1434.8	1435.5	1436.2	1437.8
167.5°	1453.0	1451.6	1450.1	1448.7	1447.3	1446.9	1447.6	1448.2	1448.9	1449.6	1451.2
170°	1460.6	1459.2	1457.8	1456.4	1455.0	1454.5	1455.0	1455.4	1455.9	1456.4	1458.0
172.5°	1465.7	1464.3	1462.9	1461.5	1460.1	1459.6	1460.1	1460.5	1461.0	1461.5	1463.1
175°	1472.3	1470.7	1469.0	1467.4	1465.7	1465.1	1465.6	1466.1	1466.5	1467.0	1468.7
177.5°	1473.4	1472.1	1470.7	1469.4	1468.1	1467.5	1467.7	1467.9	1468.1	1468.3	1469.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	78.0	82.4	86.7	89.6	91.0	92.4	93.8	95.1
90°	91.7	96.9	102.1	105.6	107.2	108.9	110.6	112.3
92.5°	90.5	95.1	99.6	102.7	104.2	105.7	107.2	108.7
95°	103.7	108.8	113.8	116.8	117.7	118.7	119.7	120.7
97.5°	113.2	117.9	122.5	125.6	127.1	128.6	130.0	131.5
100°	117.3	122.9	128.5	132.1	133.7	135.3	136.9	138.5
102.5°	117.4	123.5	129.6	133.6	135.3	137.1	138.9	140.7
105°	116.2	122.3	128.4	132.5	134.6	136.6	138.7	140.8
107.5°	127.6	128.4	129.1	130.5	132.6	134.6	136.7	138.7
110°	178.4	158.0	137.6	128.5	130.5	132.6	134.6	136.7



TEST NUMBER: P331279

CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	334.0	251.0	168.1	127.5	129.4	131.3	133.1	135.0
115°	470.5	364.1	257.8	196.6	180.7	164.8	148.9	133.1
117.5°	703.1	679.6	656.1	617.0	562.1	507.2	452.4	397.5
120°	811.9	817.5	823.2	810.6	779.9	749.1	718.3	687.5
122.5°	857.5	861.9	866.3	865.9	860.7	855.5	850.2	845.0
125°	922.5	926.9	931.2	934.2	935.9	937.5	939.1	940.7
127.5°	982.4	987.3	992.2	995.2	996.2	997.2	998.2	999.3
130°	1020.4	1025.4	1030.4	1033.2	1033.8	1034.3	1034.9	1035.5
132.5°	1057.2	1061.8	1066.4	1068.9	1069.5	1070.1	1070.6	1071.2
135°	1110.0	1114.4	1118.9	1121.3	1121.7	1122.0	1122.3	1122.7
137.5°	1158.8	1163.0	1167.1	1169.2	1169.1	1168.9	1168.8	1168.7
140°	1190.5	1194.2	1198.0	1199.6	1199.0	1198.4	1197.8	1197.3
142.5°	1220.2	1223.4	1226.7	1228.0	1227.3	1226.6	1226.0	1225.3
145°	1262.1	1264.4	1266.6	1267.4	1266.7	1266.1	1265.4	1264.7
147.5°	1298.9	1300.2	1301.5	1301.8	1301.0	1300.3	1299.5	1298.8
150°	1322.1	1323.5	1324.9	1325.0	1323.8	1322.7	1321.5	1320.3
152.5°	1343.3	1344.8	1346.2	1346.1	1344.5	1343.0	1341.4	1339.9
155°	1372.0	1373.5	1374.9	1374.6	1372.7	1370.9	1369.0	1367.1
157.5°	1396.2	1397.8	1399.4	1399.3	1397.5	1395.6	1393.8	1391.9
160°	1410.3	1411.7	1413.1	1413.0	1411.4	1409.7	1408.1	1406.4
162.5°	1423.4	1425.0	1426.7	1426.4	1424.4	1422.4	1420.3	1418.3
165°	1439.5	1441.1	1442.8	1442.8	1441.1	1439.5	1437.8	1436.2
167.5°	1452.9	1454.5	1456.2	1455.9	1453.8	1451.7	1449.6	1447.4
170°	1459.7	1461.3	1463.0	1462.7	1460.6	1458.5	1456.4	1454.2
172.5°	1464.8	1466.4	1468.1	1467.9	1465.7	1463.6	1461.5	1459.3
175°	1470.3	1472.0	1473.6	1473.3	1470.9	1468.5	1466.2	1463.8
177.5°	1470.9	1472.2	1473.6	1473.4	1471.7	1470.0	1468.3	1466.6
180°	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1	1469.1

(END OF REPORT)