

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: P331270-840

Luminaire Tested: **SA2XXDIP-C290D925U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331270-840
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-C290D925U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

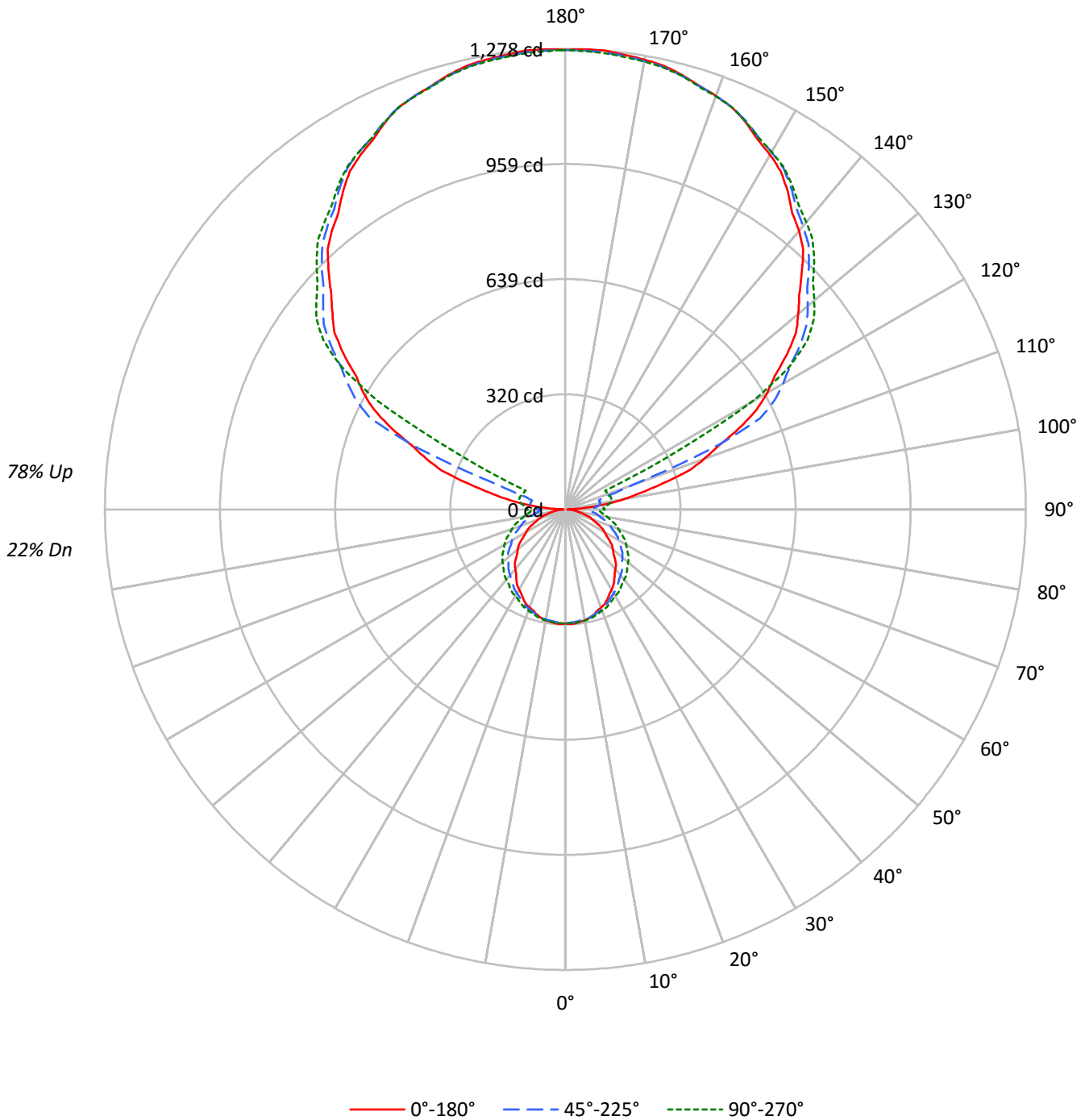
Lumens per Lamp: N/A
Luminaire Lumens: 4946.1 lumens
Efficiency: N/A
Efficacy: 132.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 37.3
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	0
RCR																		
0	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	91	86	82	79	80	77	73	70	58	56	54	41	40	39	26	25	24	17
2	82	75	69	64	73	66	61	57	50	47	44	36	34	32	22	21	20	14
3	75	66	58	53	66	58	52	47	44	40	37	31	29	26	19	18	17	11
4	68	58	50	44	60	51	45	40	39	34	31	28	25	22	17	15	14	9
5	62	51	43	37	55	45	39	34	35	30	26	25	22	19	15	14	12	8
6	57	46	38	32	50	41	34	29	31	26	23	22	19	17	14	12	10	7
7	53	41	33	28	47	37	30	25	28	23	20	20	17	14	13	11	9	6
8	49	37	29	24	43	33	26	22	25	21	17	18	15	13	11	10	8	6
9	45	34	26	21	40	30	24	19	23	19	15	17	14	11	11	9	7	5
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	10	8	7	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.0	0.6
10°-20°	86.0	1.7
20°-30°	130.3	2.6
30°-40°	158.8	3.2
40°-50°	170.8	3.5
50°-60°	165.9	3.4
60°-70°	144.8	2.9
70°-80°	111.5	2.3
80°-90°	78.0	1.6
90°-100°	94.1	1.9
100°-110°	193.6	3.9
110°-120°	441.6	8.9
120°-130°	701.9	14.2
130°-140°	737.5	14.9
140°-150°	681.1	13.8
150°-160°	546.8	11.1
160°-170°	352.3	7.1
170°-180°	121.3	2.5
0°-30°	246.3	5.0
0°-40°	405.1	8.2
0°-60°	741.7	15.0
0°-90°	1076.0	21.8
90°-120°	729.3	14.7
90°-150°	2849.7	57.6
90°-180°	3870.0	78.2
0°-180°	4946.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	6	42	79	101	109	6
95°	64	57	89	110	115	76
105°	283	309	96	121	131	302
115°	532	554	597	203	122	524
125°	751	764	795	813	821	669
135°	928	943	956	974	977	717
145°	1076	1076	1091	1100	1098	673
155°	1185	1178	1188	1193	1186	546
165°	1249	1244	1246	1252	1246	353
175°	1277	1271	1273	1278	1270	122
180°	1275	1275	1275	1275	1275	



TEST NUMBER: P331270-840

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.2	15.7	22.2	28.8	35.2	42.0	48.8	55.6	62.5	69.4	73.7
90°	5.6	13.6	21.8	30.0	38.2	46.4	54.5	62.7	70.8	79.0	84.1
92.5°	22.8	28.2	33.4	38.8	44.0	50.3	57.4	64.4	71.6	78.7	83.2
95°	63.6	61.6	59.7	57.7	55.7	58.5	66.0	73.6	81.2	88.8	93.6
97.5°	122.2	107.3	92.6	77.8	63.0	60.2	69.4	78.6	87.8	96.9	101.6
100°	166.4	142.2	117.9	93.5	69.3	61.7	70.9	80.1	89.3	98.5	103.8
102.5°	214.8	212.3	209.7	207.3	204.8	191.8	168.1	144.5	121.0	97.4	103.2
105°	282.7	291.8	300.8	310.0	319.1	298.3	247.7	197.0	146.3	95.7	101.5
107.5°	360.6	367.9	375.3	382.5	389.9	362.5	300.5	238.5	176.5	114.4	115.6
110°	410.4	416.8	423.1	429.4	435.8	411.8	357.6	303.4	249.1	194.9	177.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.7	463.1	468.7	474.2	479.8	477.6	467.7	457.8	447.9	438.0	366.5
115°	532.2	536.7	541.4	545.9	550.6	557.7	567.4	577.1	586.8	596.6	504.7
117.5°	598.2	602.9	607.5	612.2	616.8	623.0	630.8	638.5	646.3	654.1	634.1
120°	647.0	650.5	654.0	657.4	661.0	666.5	674.3	682.1	689.8	697.6	703.0
122.5°	688.3	691.8	695.1	698.5	702.0	707.5	715.4	723.3	731.0	738.9	743.2
125°	750.7	753.5	756.1	758.7	761.4	766.3	773.5	780.6	787.8	795.0	799.1
127.5°	807.8	810.6	813.4	816.3	819.1	823.3	828.9	834.5	840.0	845.5	850.1
130°	843.9	847.1	850.3	853.4	856.6	860.4	864.7	869.2	873.6	878.0	882.7
132.5°	880.8	883.5	886.2	888.9	891.5	894.8	898.8	902.6	906.6	910.5	914.7
135°	928.3	931.6	934.8	938.2	941.4	944.5	947.4	950.2	953.1	955.9	960.2
137.5°	976.8	979.1	981.4	983.6	985.9	988.4	990.9	993.4	995.9	998.5	1002.4
140°	1008.6	1010.1	1011.6	1013.2	1014.7	1016.7	1019.2	1021.6	1024.1	1026.5	1030.0
142.5°	1035.1	1036.4	1037.8	1039.3	1040.6	1042.6	1045.2	1047.8	1050.5	1053.1	1056.1
145°	1076.3	1076.1	1075.9	1075.7	1075.5	1077.1	1080.7	1084.1	1087.6	1091.1	1093.2
147.5°	1112.7	1111.9	1111.2	1110.3	1109.5	1110.9	1114.3	1117.8	1121.3	1124.7	1125.8
150°	1136.3	1134.9	1133.4	1132.0	1130.5	1131.5	1134.8	1138.0	1141.3	1144.6	1145.8
152.5°	1156.2	1154.6	1153.0	1151.4	1149.8	1150.5	1153.7	1156.8	1159.9	1163.1	1164.3
155°	1185.2	1183.4	1181.4	1179.6	1177.8	1178.1	1180.5	1183.1	1185.5	1187.9	1189.1
157.5°	1207.8	1206.3	1204.8	1203.2	1201.6	1201.7	1203.5	1205.2	1206.9	1208.6	1210.0
160°	1221.1	1219.9	1218.7	1217.4	1216.2	1216.2	1217.4	1218.7	1219.9	1221.1	1222.3
162.5°	1232.9	1231.7	1230.5	1229.2	1228.0	1227.9	1229.0	1230.0	1231.1	1232.2	1233.6
165°	1248.8	1247.6	1246.4	1245.1	1243.9	1243.5	1244.2	1244.8	1245.5	1246.1	1247.5
167.5°	1260.6	1259.4	1258.2	1256.9	1255.7	1255.4	1256.0	1256.5	1257.1	1257.7	1259.1
170°	1267.3	1266.0	1264.8	1263.5	1262.3	1261.9	1262.3	1262.7	1263.1	1263.5	1265.0
172.5°	1271.6	1270.4	1269.2	1268.0	1266.8	1266.4	1266.8	1267.2	1267.6	1268.0	1269.4
175°	1277.4	1276.0	1274.6	1273.0	1271.6	1271.1	1271.5	1271.9	1272.3	1272.7	1274.2
177.5°	1278.3	1277.2	1276.1	1274.9	1273.7	1273.2	1273.4	1273.5	1273.7	1273.8	1275.1
180°	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	78.1	82.5	86.8	89.7	91.1	92.5	93.9	95.2
90°	89.2	94.3	99.4	102.8	104.4	106.0	107.7	109.3
92.5°	87.8	92.2	96.7	99.8	101.2	102.7	104.2	105.6
95°	98.6	103.4	108.4	111.3	112.3	113.3	114.3	115.3
97.5°	106.1	110.8	115.3	118.4	119.8	121.3	122.7	124.1
100°	109.3	114.7	120.1	123.6	125.1	126.6	128.2	129.7
102.5°	109.0	114.8	120.7	124.4	126.1	127.7	129.5	131.2
105°	107.3	113.2	119.0	122.9	124.8	126.7	128.8	130.7
107.5°	116.7	117.9	119.0	120.5	122.5	124.4	126.3	128.3
110°	160.5	143.2	125.9	118.4	120.3	122.2	124.1	126.0



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CATALOG NUMBER: SA2XXDIP-C290D925U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	295.0	223.5	152.0	117.1	119.0	120.7	122.5	124.2
115°	412.9	321.0	229.2	176.5	162.9	149.3	135.6	122.0
117.5°	614.2	594.2	574.3	540.6	493.2	445.8	398.3	350.8
120°	708.2	713.6	718.8	708.2	681.7	655.2	628.6	602.1
122.5°	747.4	751.6	756.0	755.9	751.4	747.0	742.7	738.2
125°	803.3	807.5	811.7	814.6	816.1	817.6	819.1	820.7
127.5°	854.7	859.4	863.9	866.8	867.8	868.9	869.9	870.9
130°	887.4	892.1	896.8	899.5	900.1	900.7	901.3	901.9
132.5°	919.1	923.3	927.7	930.1	930.7	931.3	931.9	932.5
135°	964.3	968.6	972.7	975.0	975.4	975.8	976.2	976.6
137.5°	1006.2	1010.2	1014.0	1015.9	1015.9	1015.9	1015.9	1015.9
140°	1033.5	1036.9	1040.5	1042.0	1041.6	1041.2	1040.7	1040.3
142.5°	1059.0	1062.1	1065.0	1066.3	1065.8	1065.3	1064.8	1064.3
145°	1095.2	1097.2	1099.2	1100.0	1099.5	1099.0	1098.5	1098.0
147.5°	1126.9	1128.1	1129.2	1129.5	1128.9	1128.3	1127.6	1127.0
150°	1147.0	1148.3	1149.5	1149.6	1148.6	1147.5	1146.5	1145.5
152.5°	1165.5	1166.7	1167.9	1167.9	1166.5	1165.2	1163.9	1162.5
155°	1190.4	1191.6	1192.9	1192.7	1191.0	1189.3	1187.7	1186.1
157.5°	1211.3	1212.7	1214.2	1214.1	1212.4	1210.8	1209.2	1207.7
160°	1223.6	1224.9	1226.1	1226.0	1224.5	1223.0	1221.6	1220.2
162.5°	1235.0	1236.4	1237.8	1237.6	1235.9	1234.1	1232.3	1230.5
165°	1248.9	1250.3	1251.7	1251.7	1250.3	1248.9	1247.5	1246.1
167.5°	1260.5	1261.9	1263.4	1263.1	1261.3	1259.5	1257.7	1255.8
170°	1266.5	1267.9	1269.3	1269.1	1267.3	1265.4	1263.5	1261.7
172.5°	1270.8	1272.3	1273.7	1273.5	1271.6	1269.8	1268.0	1266.2
175°	1275.7	1277.1	1278.5	1278.2	1276.2	1274.1	1272.0	1270.0
177.5°	1276.2	1277.4	1278.5	1278.3	1276.9	1275.4	1273.8	1272.4
180°	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7	1274.7

(END OF REPORT)