

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: P331273-830

Luminaire Tested: **SA2XXDIP-C290D925U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331273-830  
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-C290D925U830-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4622.1 lumens  
Efficiency: N/A  
Efficacy: 123.9 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

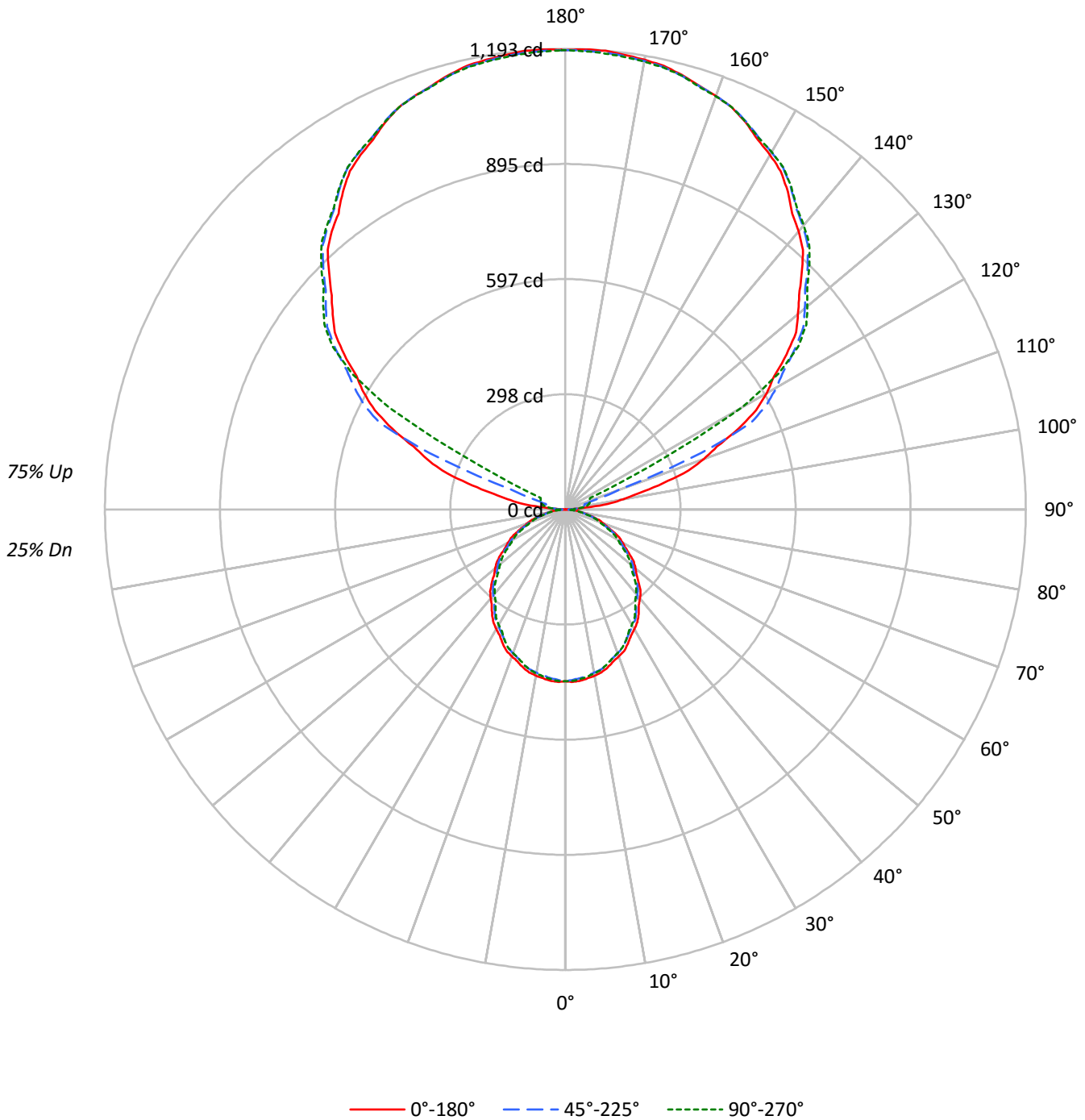
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	25				
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28	21				
2	84	77	71	66	74	68	64	59	53	50	47	39	37	35	25	24	23	17				
3	76	67	60	55	68	60	54	50	47	43	39	34	32	29	22	21	20	15				
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	13				
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15	11				
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	10				
7	54	42	35	30	48	38	32	27	30	25	22	22	19	17	15	13	11	9				
8	50	38	31	26	45	34	28	24	27	22	19	20	17	15	14	12	10	8				
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9	7				
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.9	0.9
10°-20°	117.8	2.5
20°-30°	173.2	3.7
30°-40°	201.2	4.4
40°-50°	200.9	4.3
50°-60°	175.2	3.8
60°-70°	129.6	2.8
70°-80°	73.4	1.6
80°-90°	22.7	0.5
90°-100°	39.7	0.9
100°-110°	145.5	3.1
110°-120°	389.0	8.4
120°-130°	642.1	13.9
130°-140°	682.9	14.8
140°-150°	634.7	13.7
150°-160°	510.3	11.0
160°-170°	328.8	7.1
170°-180°	113.2	2.4
0°-30°	332.9	7.2
0°-40°	534.0	11.6
0°-60°	910.2	19.7
0°-90°	1135.8	24.6
90°-120°	574.2	12.4
90°-150°	2533.9	54.8
90°-180°	3486.0	75.4
0°-180°	4622.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	1	10	17	21	23	3
95°	56	29	34	38	37	68
105°	262	273	52	62	65	280
115°	495	510	531	151	71	487
125°	700	711	727	733	736	624
135°	866	879	888	896	894	669
145°	1005	1005	1018	1024	1020	628
155°	1106	1099	1109	1113	1107	509
165°	1166	1161	1163	1168	1163	329
175°	1192	1187	1188	1193	1185	113
180°	1190	1190	1190	1190	1190	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.3	6.6	6.9	7.2	7.4	7.6	7.8	7.9	8.1	8.2	8.2
90°	0.8	2.9	5.1	7.2	9.2	11.1	12.6	14.1	15.6	17.2	18.2
92.5°	17.3	17.2	17.0	16.8	16.6	16.9	17.7	18.5	19.2	20.0	20.5
95°	56.0	49.7	43.4	37.0	30.7	28.2	29.6	30.9	32.2	33.6	34.5
97.5°	111.0	93.2	75.5	57.7	39.9	32.5	35.6	38.7	41.8	45.0	45.7
100°	152.4	126.1	99.9	73.7	47.5	36.1	39.3	42.6	45.8	49.1	50.6
102.5°	197.8	192.3	186.7	181.2	175.6	159.3	132.1	104.8	77.7	50.4	52.4
105°	261.6	267.4	273.1	278.9	284.6	261.4	209.2	156.9	104.7	52.5	54.6
107.5°	334.5	339.1	343.7	348.4	353.1	324.0	261.4	198.8	136.1	73.5	71.4
110°	381.4	385.4	389.4	393.4	397.4	371.7	316.5	261.2	205.9	150.6	131.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	425.4	429.0	432.5	436.1	439.6	434.6	420.9	407.3	393.6	379.9	310.2
115°	494.9	498.2	501.4	504.7	507.9	512.0	516.8	521.6	526.3	531.1	442.5
117.5°	557.1	560.7	564.4	568.1	571.7	575.1	578.4	581.7	585.0	588.2	566.8
120°	602.6	605.4	608.3	611.1	614.1	617.2	620.7	624.1	627.5	630.9	633.3
122.5°	641.1	644.1	647.1	650.2	653.2	656.6	660.3	664.1	667.9	671.7	673.0
125°	699.8	702.3	704.8	707.3	709.8	712.8	716.5	720.1	723.8	727.4	728.8
127.5°	753.0	755.8	758.6	761.3	764.0	766.8	769.5	772.2	775.0	777.7	779.6
130°	786.8	789.9	792.9	796.0	799.0	801.6	803.7	805.8	807.9	810.0	812.1
132.5°	821.2	823.8	826.4	829.1	831.6	834.0	836.1	838.2	840.3	842.4	844.2
135°	866.0	869.0	872.1	875.2	878.3	880.6	882.3	884.1	885.8	887.5	889.4
137.5°	911.3	913.4	915.6	917.7	919.8	921.9	923.8	925.8	927.7	929.7	931.5
140°	940.8	942.4	944.0	945.5	947.0	948.9	950.9	953.0	955.2	957.2	958.9
142.5°	965.6	967.0	968.5	969.8	971.2	973.1	975.4	977.9	980.3	982.7	984.3
145°	1004.6	1004.4	1004.2	1004.0	1003.8	1005.3	1008.6	1011.8	1015.1	1018.3	1019.6
147.5°	1038.5	1037.7	1037.1	1036.3	1035.6	1036.8	1040.0	1043.3	1046.5	1049.7	1050.7
150°	1060.5	1059.2	1057.8	1056.5	1055.2	1056.0	1059.1	1062.2	1065.3	1068.3	1069.4
152.5°	1079.1	1077.6	1076.1	1074.7	1073.2	1073.8	1076.8	1079.7	1082.6	1085.5	1086.7
155°	1106.2	1104.5	1102.7	1101.0	1099.3	1099.6	1101.8	1104.2	1106.5	1108.7	1109.8
157.5°	1127.3	1125.9	1124.5	1122.9	1121.5	1121.6	1123.2	1124.8	1126.4	1128.0	1129.4
160°	1139.7	1138.6	1137.5	1136.2	1135.1	1135.1	1136.2	1137.5	1138.6	1139.7	1140.9
162.5°	1150.8	1149.6	1148.5	1147.3	1146.1	1146.0	1147.1	1148.0	1149.1	1150.1	1151.3
165°	1165.5	1164.4	1163.3	1162.1	1160.9	1160.6	1161.2	1161.8	1162.4	1163.0	1164.3
167.5°	1176.6	1175.4	1174.3	1173.1	1172.0	1171.7	1172.2	1172.7	1173.3	1173.8	1175.2
170°	1182.8	1181.6	1180.4	1179.3	1178.2	1177.8	1178.2	1178.6	1178.9	1179.3	1180.6
172.5°	1186.8	1185.7	1184.6	1183.5	1182.3	1181.9	1182.3	1182.7	1183.1	1183.5	1184.8
175°	1192.2	1190.9	1189.6	1188.2	1186.8	1186.4	1186.8	1187.1	1187.5	1187.9	1189.3
177.5°	1193.1	1192.0	1191.0	1189.9	1188.8	1188.4	1188.5	1188.6	1188.8	1188.9	1190.1
180°	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1
90°	19.1	20.1	21.0	21.7	22.1	22.4	22.9	23.3
92.5°	20.9	21.5	22.0	22.3	22.5	22.8	23.0	23.3
95°	35.4	36.5	37.4	37.8	37.6	37.4	37.2	37.0
97.5°	46.5	47.2	48.0	48.4	48.7	48.9	49.2	49.4
100°	52.1	53.6	55.2	56.2	56.6	56.9	57.3	57.7
102.5°	54.4	56.5	58.4	59.7	60.2	60.7	61.3	61.8
105°	56.7	58.8	60.9	62.4	63.2	63.9	64.7	65.4
107.5°	69.2	67.1	64.9	64.3	65.0	65.8	66.5	67.3
110°	112.4	93.2	74.1	64.9	65.7	66.4	67.2	68.1





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CATALOG NUMBER: SA2XXDIP-C290D925U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	240.4	170.6	100.9	66.3	66.8	67.5	68.1	68.7
115°	354.0	265.4	176.8	125.6	111.9	98.1	84.4	70.6
117.5°	545.4	524.1	502.6	469.2	424.0	378.7	333.5	288.2
120°	635.6	637.9	640.2	628.4	602.6	576.7	550.9	525.1
122.5°	674.4	675.7	677.1	675.3	670.3	665.2	660.3	655.3
125°	730.1	731.4	732.7	733.7	734.2	734.8	735.5	736.0
127.5°	781.6	783.5	785.5	786.5	786.6	786.7	786.8	786.9
130°	814.3	816.3	818.4	819.4	819.3	819.0	818.8	818.6
132.5°	846.0	847.8	849.6	850.4	850.2	850.0	849.8	849.6
135°	891.4	893.2	895.1	895.9	895.5	895.1	894.8	894.4
137.5°	933.4	935.3	937.2	937.8	937.2	936.5	935.9	935.2
140°	960.6	962.4	964.1	964.5	963.6	962.6	961.7	960.6
142.5°	985.8	987.4	989.0	989.3	988.4	987.4	986.5	985.4
145°	1021.1	1022.4	1023.7	1023.9	1022.9	1022.0	1021.1	1020.1
147.5°	1051.7	1052.6	1053.7	1053.8	1052.9	1052.2	1051.3	1050.6
150°	1070.5	1071.8	1072.9	1073.0	1072.0	1071.0	1070.1	1069.1
152.5°	1087.8	1088.9	1090.1	1090.1	1088.7	1087.5	1086.3	1085.0
155°	1111.1	1112.2	1113.3	1113.1	1111.6	1110.0	1108.5	1107.0
157.5°	1130.6	1131.9	1133.2	1133.1	1131.6	1130.1	1128.6	1127.2
160°	1142.0	1143.2	1144.3	1144.2	1142.8	1141.5	1140.2	1138.9
162.5°	1152.6	1154.0	1155.3	1155.1	1153.5	1151.8	1150.2	1148.5
165°	1165.6	1167.0	1168.3	1168.3	1167.0	1165.6	1164.3	1163.0
167.5°	1176.5	1177.8	1179.2	1178.9	1177.2	1175.5	1173.8	1172.1
170°	1182.0	1183.4	1184.7	1184.5	1182.8	1181.0	1179.3	1177.6
172.5°	1186.1	1187.5	1188.8	1188.6	1186.8	1185.2	1183.5	1181.8
175°	1190.6	1191.9	1193.3	1193.0	1191.1	1189.2	1187.2	1185.3
177.5°	1191.1	1192.2	1193.3	1193.1	1191.8	1190.3	1188.9	1187.6
180°	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7	1189.7

(END OF REPORT)