

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: P331327-935

Luminaire Tested: **SA2XXDIP-C485D1080U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331327-935  
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-C485D1080U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5411.4 lumens  
Efficiency: N/A  
Efficacy: 109.5 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

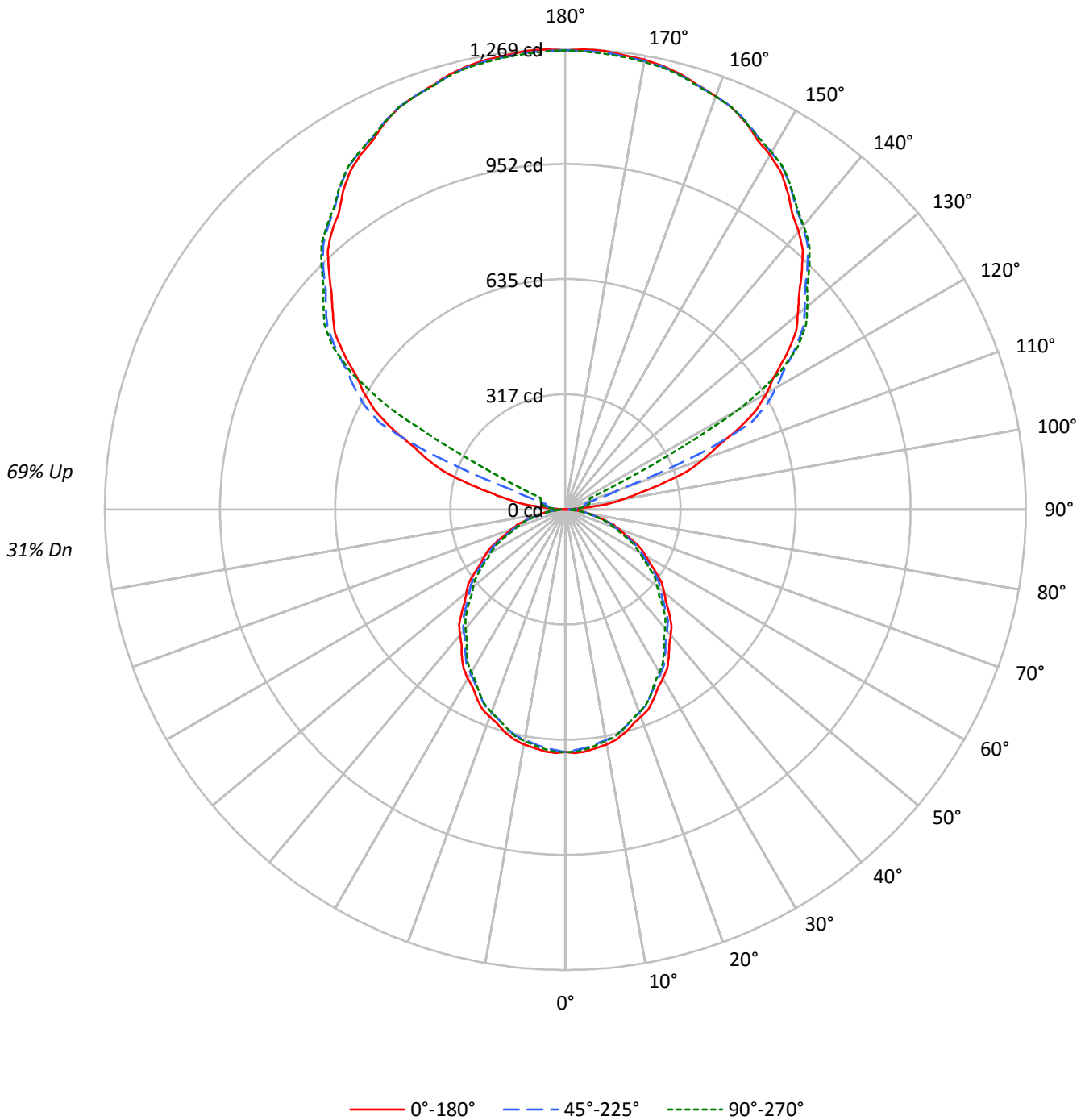
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	94	89	86	82	84	81	77	74	64	62	60	49	47	46	35	34	33	26
2	85	78	72	67	76	70	65	61	56	52	49	43	40	38	30	29	28	22
3	78	69	61	56	70	62	56	51	49	45	42	38	35	32	27	25	24	19
4	71	61	53	47	64	55	48	43	44	39	35	34	30	28	24	22	20	16
5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	19	18	14
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	17	16	12
7	55	43	36	30	50	39	33	28	32	27	23	25	21	18	18	16	14	11
8	51	39	32	27	46	36	29	25	29	24	20	22	19	16	16	14	12	10
9	48	36	28	24	43	33	26	22	26	22	18	21	17	15	15	13	11	9
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8

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

	0°	45°	90°
0°	10797	10797	10797
5°	10838	10682	10746
10°	10775	10575	10627
15°	10641	10437	10425
20°	10452	10232	10220
25°	10265	9978	9978
30°	10023	9747	9661
35°	9798	9469	9329
40°	9514	9190	9012
45°	9236	8912	8690
50°	8932	8626	8317
55°	8617	8290	7983
60°	8263	7892	7598
65°	7885	7492	7148
70°	7407	7010	6680
75°	6744	6457	6301
80°	5979	5793	5504
85°	4872	4650	4168



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.9	1.2
10°-20°	176.9	3.3
20°-30°	260.1	4.8
30°-40°	302.1	5.6
40°-50°	301.8	5.6
50°-60°	263.2	4.9
60°-70°	194.6	3.6
70°-80°	110.2	2.0
80°-90°	32.8	0.6
90°-100°	42.2	0.8
100°-110°	154.7	2.9
110°-120°	413.6	7.6
120°-130°	682.8	12.6
130°-140°	726.1	13.4
140°-150°	674.9	12.5
150°-160°	542.6	10.0
160°-170°	349.7	6.5
170°-180°	120.4	2.2
0°-30°	499.9	9.2
0°-40°	802.0	14.8
0°-60°	1366.9	25.3
0°-90°	1704.5	31.5
90°-120°	610.5	11.3
90°-150°	2694.3	49.8
90°-180°	3707.0	68.5
0°-180°	5411.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	669	666	659	664	663	63
15°	637	632	624	627	624	179
25°	576	571	560	561	560	265
35°	497	490	480	476	473	310
45°	404	400	390	384	381	312
55°	306	302	294	287	284	274
65°	206	202	196	190	187	204
75°	108	107	104	100	101	115
85°	26	26	25	23	22	30
90°	1	11	18	23	25	4
95°	60	31	36	40	39	73
105°	278	290	56	66	70	297
115°	526	542	565	161	75	518
125°	744	756	773	780	783	663
135°	921	935	944	952	951	711
145°	1068	1068	1083	1089	1085	668
155°	1176	1169	1179	1184	1177	542
165°	1239	1234	1237	1242	1237	350
175°	1268	1262	1263	1269	1260	121
180°	1265	1265	1265	1265	1265	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	671.8	671.2	670.7	670.1	669.5	668.7	667.4	666.2	664.9	663.6	664.8
5°	668.7	668.1	667.6	667.0	666.5	665.4	663.8	662.3	660.6	659.1	660.2
7.5°	662.8	661.9	661.1	660.1	659.3	658.1	656.4	654.9	653.2	651.6	652.8
10°	657.2	656.2	655.1	654.2	653.2	651.8	650.1	648.4	646.7	645.0	646.1
12.5°	649.5	648.6	647.6	646.8	645.9	644.6	642.9	641.2	639.5	637.7	638.5
15°	636.6	635.8	634.9	634.0	633.2	631.8	629.9	628.1	626.2	624.4	624.9
17.5°	620.1	619.3	618.5	617.6	616.7	615.4	613.5	611.6	609.7	607.8	608.5
20°	608.3	607.4	606.6	605.7	604.9	603.5	601.4	599.4	597.4	595.5	595.9
22.5°	596.5	595.3	594.1	592.9	591.7	590.1	588.2	586.3	584.4	582.6	582.6
25°	576.2	575.0	573.9	572.7	571.6	569.8	567.4	564.9	562.5	560.1	560.3
27.5°	553.0	552.0	551.0	549.9	548.9	547.4	545.5	543.5	541.7	539.8	539.3
30°	537.6	536.4	535.3	534.2	533.0	531.3	529.2	527.1	525.0	522.8	522.4
32.5°	521.1	520.2	519.3	518.3	517.5	515.8	513.6	511.3	509.1	506.9	506.1
35°	497.1	495.6	494.2	492.8	491.4	489.5	487.2	484.9	482.6	480.4	479.5
37.5°	469.9	468.6	467.4	466.1	464.9	463.1	460.8	458.6	456.2	454.0	452.9
40°	451.4	450.2	449.1	448.0	446.9	445.1	442.8	440.6	438.2	436.0	434.7
42.5°	433.4	432.2	431.1	430.0	428.9	427.1	424.8	422.6	420.3	417.9	416.6
45°	404.5	403.5	402.4	401.5	400.5	398.9	396.7	394.6	392.4	390.3	388.7
47.5°	375.7	374.7	373.8	372.8	371.9	370.3	368.1	365.8	363.6	361.4	359.7
50°	355.6	354.9	354.1	353.4	352.8	351.4	349.4	347.4	345.3	343.4	341.4
52.5°	336.0	335.1	334.2	333.2	332.3	330.9	329.0	327.1	325.2	323.3	321.7
55°	306.1	305.2	304.4	303.5	302.6	301.4	299.6	297.9	296.2	294.5	292.8
57.5°	276.0	275.3	274.6	274.0	273.3	272.0	270.1	268.2	266.3	264.4	262.7
60°	255.9	255.4	254.8	254.2	253.7	252.4	250.4	248.3	246.3	244.4	242.8
62.5°	236.3	235.5	234.5	233.6	232.7	231.5	230.0	228.4	226.9	225.3	223.9
65°	206.4	205.5	204.7	203.8	203.0	201.8	200.4	199.0	197.5	196.1	194.8
67.5°	175.9	175.2	174.5	173.8	173.1	172.2	170.9	169.6	168.3	167.0	166.1
70°	156.9	156.4	155.8	155.2	154.6	153.7	152.4	151.1	149.8	148.5	147.6
72.5°	137.3	136.8	136.2	135.6	135.1	134.4	133.5	132.7	131.9	131.0	130.0
75°	108.1	107.7	107.5	107.2	106.9	106.4	105.6	105.0	104.3	103.5	102.6
77.5°	81.8	81.3	80.8	80.3	79.8	79.5	79.2	78.9	78.6	78.4	77.9
80°	64.3	64.1	64.1	63.9	63.7	63.5	63.2	62.9	62.7	62.3	61.9
82.5°	47.9	47.8	47.8	47.8	47.7	47.6	47.4	47.3	47.1	46.9	46.4
85°	26.3	26.3	26.1	25.9	25.8	25.7	25.5	25.4	25.2	25.1	24.6
87.5°	9.5	9.6	9.9	10.1	10.3	10.5	10.6	10.7	10.8	10.8	10.8
90°	0.9	3.2	5.4	7.7	9.9	11.8	13.4	15.1	16.7	18.3	19.3
92.5°	18.5	18.3	18.1	17.9	17.7	18.0	18.8	19.6	20.4	21.3	21.8
95°	59.5	52.8	46.1	39.3	32.6	30.0	31.4	32.9	34.3	35.7	36.7
97.5°	118.0	99.2	80.2	61.3	42.4	34.6	37.9	41.2	44.5	47.8	48.6
100°	162.0	134.1	106.2	78.4	50.5	38.3	41.8	45.3	48.7	52.2	53.8
102.5°	210.3	204.4	198.5	192.6	186.8	169.4	140.4	111.5	82.6	53.6	55.8
105°	278.3	284.4	290.4	296.5	302.6	277.9	222.4	166.9	111.3	55.8	58.0
107.5°	355.7	360.6	365.5	370.4	375.4	344.6	277.9	211.4	144.7	78.2	75.9
110°	405.4	409.7	414.1	418.3	422.6	395.3	336.5	277.8	219.0	160.1	139.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	452.4	456.2	459.9	463.6	467.4	462.1	447.5	433.1	418.5	404.0	329.8
115°	526.3	529.8	533.2	536.7	540.1	544.4	549.5	554.6	559.6	564.7	470.5
117.5°	592.4	596.2	600.1	604.0	607.9	611.5	615.0	618.5	622.0	625.5	602.7
120°	640.7	643.8	646.8	649.9	652.9	656.3	660.0	663.6	667.3	670.9	673.3
122.5°	681.7	684.9	688.1	691.4	694.6	698.2	702.1	706.1	710.2	714.1	715.6
125°	744.2	746.7	749.4	752.1	754.7	757.9	761.8	765.7	769.6	773.4	774.8
127.5°	800.7	803.7	806.6	809.5	812.4	815.3	818.2	821.0	824.0	826.9	829.0
130°	836.5	839.8	843.1	846.4	849.5	852.3	854.5	856.8	859.0	861.3	863.5
132.5°	873.1	876.0	878.7	881.5	884.2	886.7	889.0	891.2	893.5	895.7	897.6
135°	920.8	924.0	927.3	930.6	933.8	936.3	938.1	940.0	941.8	943.7	945.7
137.5°	968.9	971.2	973.4	975.8	978.0	980.2	982.3	984.4	986.4	988.5	990.5
140°	1000.4	1002.0	1003.7	1005.3	1006.9	1008.8	1011.1	1013.3	1015.5	1017.8	1019.6
142.5°	1026.7	1028.2	1029.7	1031.1	1032.6	1034.7	1037.2	1039.7	1042.3	1044.9	1046.5
145°	1068.2	1067.9	1067.7	1067.6	1067.3	1068.9	1072.4	1075.8	1079.3	1082.8	1084.2
147.5°	1104.2	1103.5	1102.7	1101.9	1101.1	1102.4	1105.9	1109.2	1112.7	1116.1	1117.1
150°	1127.7	1126.2	1124.8	1123.3	1122.0	1122.8	1126.1	1129.4	1132.6	1135.8	1137.1
152.5°	1147.4	1145.8	1144.2	1142.6	1141.1	1141.8	1144.9	1148.0	1151.1	1154.2	1155.4
155°	1176.1	1174.3	1172.5	1170.6	1168.8	1169.2	1171.6	1174.0	1176.5	1178.9	1180.1
157.5°	1198.7	1197.1	1195.6	1194.0	1192.5	1192.6	1194.3	1195.9	1197.7	1199.4	1200.8
160°	1211.9	1210.7	1209.4	1208.2	1206.9	1206.9	1208.2	1209.4	1210.7	1211.9	1213.1
162.5°	1223.6	1222.4	1221.1	1219.9	1218.7	1218.6	1219.6	1220.7	1221.8	1222.8	1224.2
165°	1239.3	1238.0	1236.8	1235.6	1234.4	1234.1	1234.7	1235.4	1236.0	1236.6	1237.9
167.5°	1251.0	1249.8	1248.5	1247.3	1246.1	1245.8	1246.4	1246.9	1247.5	1248.1	1249.5
170°	1257.6	1256.4	1255.2	1254.0	1252.8	1252.3	1252.8	1253.1	1253.5	1254.0	1255.3
172.5°	1262.0	1260.8	1259.6	1258.4	1257.1	1256.7	1257.1	1257.5	1257.9	1258.4	1259.7
175°	1267.7	1266.3	1264.8	1263.4	1262.0	1261.5	1261.9	1262.3	1262.7	1263.1	1264.6
177.5°	1268.6	1267.5	1266.3	1265.2	1264.0	1263.5	1263.7	1263.9	1264.0	1264.2	1265.3
180°	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	665.9	667.0	668.1	668.7	668.4	668.1	668.0	667.7
5°	661.4	662.5	663.7	664.1	663.8	663.5	663.2	663.0
7.5°	653.9	655.0	656.3	656.6	656.3	656.0	655.7	655.4
10°	647.2	648.4	649.5	649.9	649.5	649.0	648.6	648.2
12.5°	639.4	640.2	640.9	641.2	640.8	640.6	640.2	639.9
15°	625.5	626.1	626.6	626.5	625.9	625.2	624.5	623.7
17.5°	609.1	609.8	610.4	610.4	609.7	609.1	608.4	607.7
20°	596.3	596.8	597.2	597.1	596.5	595.9	595.4	594.8
22.5°	582.7	582.8	582.9	582.8	582.5	582.1	581.8	581.4
25°	560.7	560.9	561.2	561.2	560.9	560.7	560.3	560.1
27.5°	538.9	538.5	538.0	537.5	536.8	536.1	535.5	534.8
30°	521.9	521.5	521.1	520.6	520.0	519.4	518.8	518.2
32.5°	505.3	504.5	503.8	503.1	502.5	502.0	501.4	500.8
35°	478.6	477.8	476.9	476.1	475.4	474.7	474.0	473.3
37.5°	451.9	450.8	449.8	448.8	448.2	447.5	446.8	446.2
40°	433.4	432.1	430.8	429.9	429.3	428.8	428.2	427.6
42.5°	415.2	413.8	412.3	411.3	410.4	409.7	408.9	408.0
45°	387.2	385.6	384.0	383.0	382.4	381.9	381.3	380.6
47.5°	358.1	356.4	354.7	353.5	352.7	351.9	351.0	350.2
50°	339.4	337.3	335.4	334.0	333.3	332.6	331.8	331.1
52.5°	320.0	318.3	316.7	315.4	314.4	313.5	312.5	311.6
55°	291.1	289.4	287.7	286.5	285.7	285.0	284.3	283.6
57.5°	261.1	259.3	257.7	256.6	256.0	255.5	254.9	254.3
60°	241.2	239.6	238.1	237.0	236.6	236.2	235.7	235.3
62.5°	222.4	220.9	219.5	218.5	217.9	217.4	216.9	216.3
65°	193.6	192.3	191.0	189.9	189.2	188.6	187.9	187.1
67.5°	165.1	164.0	163.1	162.3	161.7	161.1	160.6	160.0
70°	146.5	145.5	144.6	143.8	143.2	142.6	142.1	141.5
72.5°	129.1	128.0	127.1	126.3	125.9	125.4	124.9	124.5
75°	101.8	101.0	100.1	99.8	100.1	100.4	100.7	101.0
77.5°	77.5	77.1	76.6	76.2	75.8	75.4	75.0	74.6
80°	61.5	61.0	60.7	60.3	60.0	59.8	59.4	59.2
82.5°	45.9	45.3	44.8	44.4	44.4	44.3	44.3	44.3
85°	24.2	23.8	23.3	23.1	22.9	22.8	22.6	22.5
87.5°	10.6	10.4	10.3	10.2	10.2	10.2	10.2	10.1
90°	20.3	21.4	22.4	23.1	23.5	23.9	24.3	24.7
92.5°	22.3	22.8	23.3	23.8	24.0	24.2	24.5	24.7
95°	37.7	38.7	39.8	40.2	40.0	39.8	39.5	39.3
97.5°	49.4	50.2	51.1	51.6	51.8	52.1	52.3	52.5
100°	55.4	57.1	58.7	59.7	60.1	60.5	61.0	61.3
102.5°	57.9	60.0	62.1	63.5	64.0	64.6	65.2	65.7
105°	60.3	62.5	64.7	66.3	67.2	67.9	68.7	69.6
107.5°	73.6	71.3	69.1	68.4	69.1	69.9	70.8	71.5
110°	119.5	99.2	78.8	69.1	69.8	70.7	71.5	72.3





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CATALOG NUMBER: SA2XXDIP-C485D1080U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.6	181.4	107.2	70.4	71.1	71.7	72.4	73.0
115°	376.3	282.2	188.0	133.6	119.0	104.4	89.7	75.1
117.5°	580.0	557.2	534.4	498.9	450.8	402.7	354.6	306.4
120°	675.8	678.2	680.7	668.1	640.7	613.2	585.7	558.4
122.5°	717.0	718.5	720.0	718.0	712.7	707.4	702.1	696.7
125°	776.3	777.7	779.1	780.2	780.8	781.4	782.0	782.6
127.5°	831.0	833.1	835.2	836.3	836.4	836.5	836.6	836.7
130°	865.7	868.0	870.2	871.2	871.1	870.8	870.6	870.5
132.5°	899.5	901.5	903.4	904.2	904.0	903.8	903.6	903.4
135°	947.7	949.8	951.7	952.6	952.2	951.7	951.4	951.0
137.5°	992.5	994.5	996.4	997.1	996.4	995.7	995.1	994.4
140°	1021.5	1023.3	1025.1	1025.5	1024.5	1023.5	1022.4	1021.5
142.5°	1048.2	1049.9	1051.5	1051.9	1050.9	1049.8	1048.9	1047.8
145°	1085.6	1087.0	1088.5	1088.6	1087.7	1086.7	1085.6	1084.6
147.5°	1118.2	1119.3	1120.3	1120.4	1119.6	1118.7	1117.8	1117.0
150°	1138.3	1139.5	1140.7	1140.8	1139.8	1138.8	1137.8	1136.8
152.5°	1156.6	1157.9	1159.1	1159.0	1157.6	1156.3	1154.9	1153.7
155°	1181.3	1182.6	1183.8	1183.5	1181.9	1180.3	1178.7	1177.1
157.5°	1202.1	1203.5	1204.9	1204.8	1203.2	1201.6	1200.1	1198.4
160°	1214.3	1215.5	1216.7	1216.6	1215.2	1213.8	1212.4	1210.9
162.5°	1225.5	1226.9	1228.4	1228.1	1226.4	1224.7	1222.9	1221.2
165°	1239.4	1240.8	1242.3	1242.3	1240.8	1239.4	1237.9	1236.6
167.5°	1250.9	1252.3	1253.8	1253.5	1251.7	1249.9	1248.1	1246.2
170°	1256.8	1258.2	1259.6	1259.4	1257.6	1255.8	1254.0	1252.1
172.5°	1261.2	1262.6	1264.0	1263.9	1262.0	1260.2	1258.4	1256.5
175°	1265.9	1267.4	1268.8	1268.5	1266.4	1264.4	1262.4	1260.3
177.5°	1266.4	1267.6	1268.8	1268.6	1267.1	1265.7	1264.2	1262.7
180°	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9

(END OF REPORT)