

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: P332511

Luminaire Tested: **SA4XXDIP-C350D810U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332511
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D810U835-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

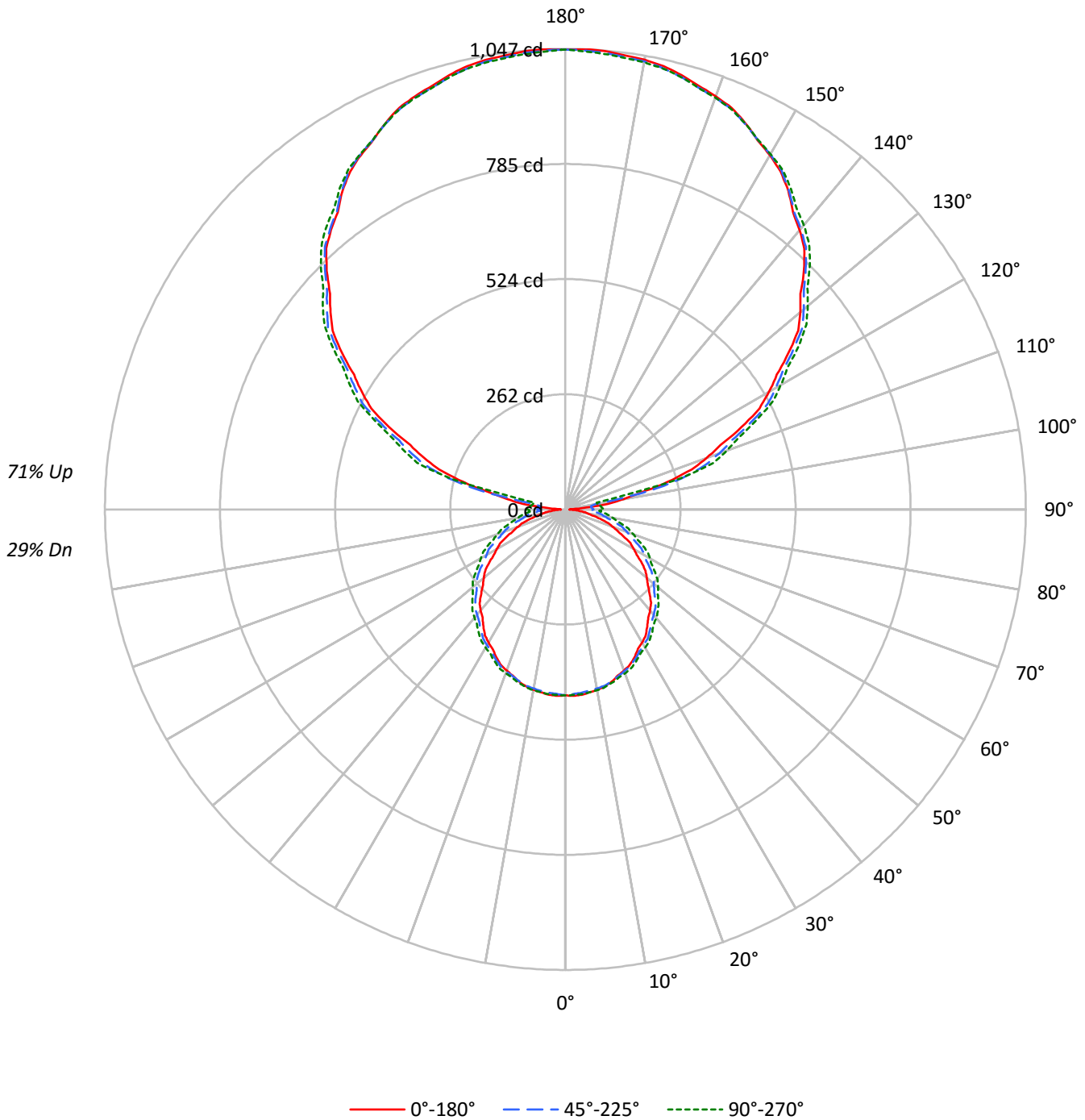
Lumens per Lamp: N/A
Luminaire Lumens: 4677.6 lumens
Efficiency: N/A
Efficacy: 149.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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									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	50	30	10	50	30	10	50	30	10	0																
RCR	0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29	1	92	88	84	80	82	79	75	72	62	59	57	46	44	43	31	30	30	23								
	2	84	76	70	65	75	68	63	59	54	50	47	40	37	35	27	26	24	19	3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	22	20	15								
	4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	21	19	17	13	5	64	52	44	38	57	47	40	35	37	32	28	28	24	22	19	17	15	11								
	6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10	7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9								
	8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8	9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7								
	10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6																											

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	0.9
10°-20°	114.7	2.5
20°-30°	173.4	3.7
30°-40°	209.8	4.5
40°-50°	221.8	4.7
50°-60°	208.8	4.5
60°-70°	173.2	3.7
70°-80°	121.7	2.6
80°-90°	71.8	1.5
90°-100°	76.6	1.6
100°-110°	258.2	5.5
110°-120°	456.4	9.8
120°-130°	565.1	12.1
130°-140°	597.3	12.8
140°-150°	554.9	11.9
150°-160°	446.7	9.5
160°-170°	288.1	6.2
170°-180°	99.3	2.1
0°-30°	328.1	7.0
0°-40°	537.9	11.5
0°-60°	968.5	20.7
0°-90°	1335.1	28.5
90°-120°	791.2	16.9
90°-150°	2508.4	53.6
90°-180°	3342.0	71.4
0°-180°	4677.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	10	37	64	82	88	7
95°	49	40	58	75	81	60
105°	240	254	275	292	270	251
115°	442	449	463	475	478	435
125°	620	623	632	643	648	553
135°	767	767	773	782	786	591
145°	884	886	886	890	893	552
155°	969	969	967	970	968	447
165°	1022	1018	1018	1024	1017	289
175°	1045	1041	1042	1048	1039	100
180°	1045	1045	1045	1045	1045	



TEST NUMBER: P332511

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.5	19.2	23.8	28.5	33.2	38.0	42.8	47.7	52.6	57.5	60.8
90°	9.9	16.0	22.2	28.3	34.4	40.4	46.3	52.2	58.1	64.1	68.2
92.5°	17.0	20.9	24.8	28.7	32.6	37.5	43.4	49.3	55.3	61.2	65.2
95°	49.2	46.7	44.3	41.8	39.4	40.4	44.9	49.4	53.9	58.4	62.3
97.5°	96.9	103.6	110.3	116.9	123.6	119.4	104.2	89.1	74.0	58.9	61.7
100°	133.4	139.3	145.2	151.0	156.9	149.9	130.0	110.1	90.3	70.4	70.3
102.5°	174.7	179.4	184.1	188.8	193.5	196.3	197.2	198.1	199.0	199.8	170.7
105°	239.6	242.8	245.9	249.0	252.2	256.1	260.9	265.7	270.4	275.2	279.4
107.5°	300.7	302.9	305.2	307.4	309.6	313.2	318.1	322.9	327.8	332.7	336.0
110°	341.6	343.6	345.6	347.5	349.5	352.9	357.6	362.3	367.1	371.8	374.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.2	383.5	385.7	387.9	390.2	393.3	397.3	401.3	405.3	409.3	411.6
115°	442.3	443.7	445.2	446.7	448.1	450.5	453.7	456.8	460.0	463.2	465.9
117.5°	497.7	498.9	500.2	501.5	502.7	505.1	508.6	512.2	515.7	519.2	521.3
120°	534.8	535.8	536.9	537.9	538.9	540.8	543.7	546.6	549.4	552.3	554.8
122.5°	569.9	570.3	570.8	571.3	571.8	573.6	576.7	579.8	583.0	586.1	588.4
125°	619.6	620.2	620.8	621.4	621.9	623.4	625.7	627.9	630.2	632.5	635.0
127.5°	667.0	667.1	667.2	667.2	667.3	668.7	671.6	674.4	677.2	680.0	681.8
130°	697.3	697.4	697.4	697.5	697.6	698.7	700.9	703.1	705.3	707.5	709.6
132.5°	725.5	725.7	725.9	726.1	726.3	727.4	729.4	731.4	733.4	735.4	737.4
135°	767.2	767.0	766.9	766.7	766.5	767.1	768.6	770.0	771.4	772.9	774.9
137.5°	804.6	804.5	804.5	804.5	804.4	805.0	806.1	807.2	808.3	809.5	811.4
140°	829.0	829.2	829.5	829.7	829.9	830.3	830.7	831.2	831.6	832.1	834.0
142.5°	850.5	851.1	851.7	852.3	852.9	853.3	853.4	853.6	853.7	853.9	855.4
145°	884.0	884.4	884.8	885.3	885.7	885.9	885.9	885.9	885.9	885.9	886.7
147.5°	910.8	911.6	912.5	913.4	914.2	914.6	914.4	914.2	914.0	913.9	914.1
150°	930.1	930.7	931.3	931.9	932.5	932.7	932.5	932.4	932.2	932.0	932.0
152.5°	946.0	946.6	947.1	947.6	948.2	948.3	948.0	947.7	947.3	947.0	947.3
155°	968.8	968.9	969.1	969.3	969.5	969.3	968.8	968.2	967.7	967.2	967.9
157.5°	988.0	987.9	987.8	987.7	987.6	987.2	986.6	986.1	985.5	984.9	985.8
160°	999.3	998.7	998.2	997.7	997.2	996.8	996.7	996.5	996.3	996.1	997.2
162.5°	1009.3	1008.6	1007.9	1007.3	1006.6	1006.2	1006.0	1005.9	1005.7	1005.5	1006.6
165°	1021.9	1021.1	1020.2	1019.3	1018.5	1018.0	1018.0	1018.0	1018.0	1018.0	1019.4
167.5°	1031.9	1031.0	1030.1	1029.2	1028.3	1027.8	1027.7	1027.6	1027.5	1027.4	1028.9
170°	1037.6	1036.5	1035.5	1034.4	1033.4	1033.0	1033.1	1033.3	1033.5	1033.7	1035.0
172.5°	1041.3	1040.3	1039.2	1038.2	1037.2	1036.7	1036.9	1037.1	1037.2	1037.4	1038.8
175°	1045.4	1044.3	1043.3	1042.3	1041.2	1040.8	1041.0	1041.1	1041.3	1041.5	1043.0
177.5°	1047.3	1046.3	1045.3	1044.3	1043.4	1043.0	1043.3	1043.6	1043.9	1044.1	1045.2
180°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	64.0	67.3	70.5	72.7	73.7	74.6	75.6	76.6
90°	72.2	76.3	80.4	83.1	84.3	85.5	86.6	87.8
92.5°	69.2	73.2	77.2	79.7	80.6	81.5	82.4	83.3
95°	66.1	70.0	73.9	76.4	77.5	78.7	79.8	80.9
97.5°	64.6	67.5	70.3	72.3	73.4	74.5	75.5	76.6
100°	70.1	70.0	69.9	70.3	71.2	72.1	73.0	74.0
102.5°	141.6	112.5	83.4	69.3	70.1	71.0	71.8	72.7
105°	283.6	287.8	292.0	291.4	285.9	280.5	275.1	269.7
107.5°	339.4	342.7	346.1	348.4	349.9	351.3	352.7	354.1
110°	377.3	380.1	382.9	384.9	386.3	387.7	389.0	390.4



TEST NUMBER: P332511

CATALOG NUMBER: SA4XXDIP-C350D810U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	413.8	416.1	418.4	420.3	421.8	423.3	424.8	426.3
115°	468.6	471.2	473.9	475.6	476.3	477.1	477.8	478.5
117.5°	523.4	525.5	527.7	529.1	529.9	530.7	531.4	532.2
120°	557.2	559.7	562.1	563.6	564.1	564.6	565.1	565.6
122.5°	590.7	593.0	595.3	596.7	597.1	597.5	597.9	598.3
125°	637.6	640.1	642.6	644.3	645.1	645.9	646.7	647.5
127.5°	683.6	685.4	687.2	688.4	688.9	689.5	690.1	690.7
130°	711.7	713.7	715.8	717.1	717.8	718.4	719.0	719.7
132.5°	739.4	741.4	743.3	744.6	745.1	745.6	746.1	746.6
135°	776.9	779.0	781.0	782.5	783.5	784.4	785.4	786.4
137.5°	813.3	815.2	817.1	818.3	818.7	819.1	819.6	820.0
140°	835.9	837.8	839.7	840.9	841.6	842.3	843.0	843.7
142.5°	857.0	858.6	860.2	861.2	861.7	862.2	862.6	863.1
145°	887.5	888.3	889.1	889.9	890.7	891.4	892.2	893.0
147.5°	914.3	914.5	914.8	915.1	915.6	916.2	916.7	917.2
150°	932.0	932.0	932.0	932.1	932.3	932.4	932.6	932.8
152.5°	947.6	947.9	948.1	948.2	948.1	948.0	947.9	947.8
155°	968.6	969.3	970.0	970.1	969.5	969.0	968.5	968.0
157.5°	986.7	987.6	988.5	988.5	987.6	986.7	985.8	984.9
160°	998.2	999.3	1000.3	1000.3	999.3	998.2	997.2	996.1
162.5°	1007.6	1008.6	1009.7	1009.6	1008.4	1007.2	1006.1	1004.9
165°	1020.8	1022.2	1023.6	1023.5	1021.9	1020.4	1018.8	1017.2
167.5°	1030.5	1032.0	1033.5	1033.4	1031.7	1029.9	1028.2	1026.5
170°	1036.4	1037.8	1039.2	1039.0	1037.3	1035.6	1033.8	1032.1
172.5°	1040.2	1041.6	1043.0	1042.7	1040.9	1039.0	1037.1	1035.2
175°	1044.6	1046.2	1047.7	1047.5	1045.4	1043.3	1041.2	1039.1
177.5°	1046.4	1047.5	1048.6	1048.3	1046.6	1045.0	1043.3	1041.6
180°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4

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