

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: P332502

Luminaire Tested: **SA4XXDIP-C350D590U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332502
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-C350D590U835-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

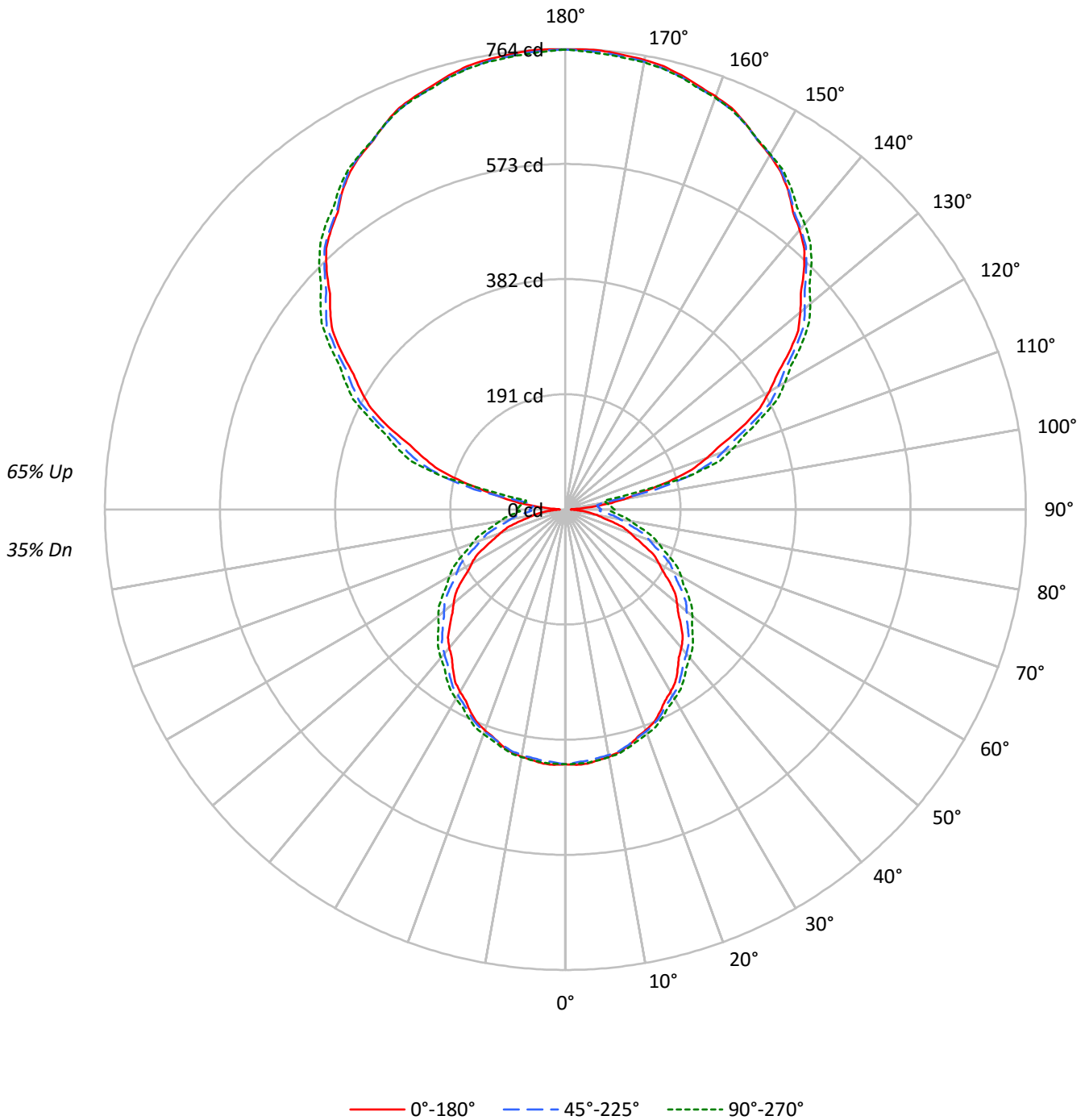
Lumens per Lamp: N/A
Luminaire Lumens: 3802.2 lumens
Efficiency: N/A
Efficacy: 148.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 25.6
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



TEST NUMBER: P332502
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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	81	77	74	65	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	32	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	28	26	24	19
4	71	60	52	46	63	54	47	42	44	38	34	34	30	27	25	22	20	16
5	65	53	45	39	58	48	41	36	39	34	29	30	26	23	22	20	17	14
6	59	47	39	33	53	43	36	31	35	29	26	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	25	21	18	18	15	13	11
8	51	38	31	26	46	35	28	24	29	23	20	22	19	16	17	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

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	1.1
10°-20°	114.7	3.0
20°-30°	173.4	4.6
30°-40°	209.8	5.5
40°-50°	221.8	5.8
50°-60°	208.8	5.5
60°-70°	173.2	4.6
70°-80°	121.7	3.2
80°-90°	71.0	1.9
90°-100°	66.9	1.8
100°-110°	196.5	5.2
110°-120°	338.4	8.9
120°-130°	415.3	10.9
130°-140°	437.1	11.5
140°-150°	405.1	10.7
150°-160°	325.9	8.6
160°-170°	210.2	5.5
170°-180°	72.4	1.9
0°-30°	328.1	8.6
0°-40°	537.9	14.1
0°-60°	968.5	25.5
0°-90°	1334.3	35.1
90°-120°	601.9	15.8
90°-150°	1859.4	48.9
90°-180°	2468.0	64.9
0°-180°	3802.2	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°	9	34	59	76	82	6
95°	38	35	54	69	75	45
105°	176	189	209	224	209	184
115°	323	330	344	355	359	318
125°	452	455	465	475	479	404
135°	560	560	565	573	578	431
145°	645	646	646	650	653	403
155°	707	707	706	708	706	326
165°	746	743	743	747	742	211
175°	763	759	760	764	758	73
180°	763	763	763	763	763	



TEST NUMBER: P332502

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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°	14.4	18.9	23.5	28.1	32.6	37.3	42.1	46.9	51.8	56.6	59.8
90°	9.3	14.9	20.5	26.1	31.7	37.3	42.8	48.3	53.9	59.4	63.2
92.5°	14.4	18.2	22.1	26.0	29.8	34.5	40.1	45.6	51.1	56.7	60.4
95°	37.5	36.7	35.8	35.0	34.2	36.0	40.4	44.9	49.3	53.7	57.3
97.5°	72.2	77.9	83.6	89.2	94.9	92.8	82.9	73.1	63.2	53.3	56.1
100°	98.8	103.8	108.8	113.8	118.8	114.6	101.2	87.9	74.5	61.1	61.8
102.5°	128.9	132.9	137.0	141.1	145.2	148.1	149.8	151.5	153.3	155.0	134.5
105°	176.0	178.8	181.7	184.6	187.4	191.1	195.6	200.2	204.7	209.2	213.0
107.5°	220.5	222.6	224.7	226.8	228.9	232.2	236.8	241.3	245.8	250.4	253.5
110°	250.2	252.1	253.9	255.8	257.6	260.8	265.2	269.7	274.1	278.5	281.2



TEST NUMBER: P332502

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	279.0	281.0	283.0	285.0	287.0	289.9	293.8	297.7	301.5	305.4	307.7
115°	323.4	324.7	326.1	327.4	328.7	331.0	334.2	337.5	340.7	344.0	346.5
117.5°	363.8	364.9	366.0	367.1	368.1	370.4	373.8	377.2	380.6	384.0	386.2
120°	390.8	391.6	392.5	393.3	394.1	396.0	398.9	401.8	404.8	407.7	410.0
122.5°	416.4	416.7	417.1	417.5	417.9	419.6	422.6	425.7	428.7	431.8	434.1
125°	452.5	452.9	453.3	453.7	454.1	455.5	457.9	460.3	462.7	465.0	467.4
127.5°	487.1	487.1	487.2	487.2	487.2	488.5	491.1	493.7	496.3	498.9	500.7
130°	509.1	509.1	509.1	509.2	509.2	510.2	512.3	514.4	516.4	518.5	520.5
132.5°	529.6	529.8	529.9	530.0	530.1	531.1	532.9	534.8	536.6	538.4	540.3
135°	560.0	559.8	559.7	559.6	559.5	560.0	561.3	562.5	563.7	565.0	566.9
137.5°	587.2	587.2	587.1	587.1	587.0	587.4	588.4	589.3	590.2	591.1	592.9
140°	605.0	605.2	605.3	605.5	605.6	605.9	606.2	606.6	607.0	607.3	609.1
142.5°	620.6	621.1	621.5	621.9	622.4	622.6	622.7	622.8	622.9	623.0	624.5
145°	645.1	645.3	645.6	645.9	646.2	646.3	646.3	646.3	646.3	646.3	647.1
147.5°	664.6	665.2	665.8	666.4	667.0	667.2	667.1	667.0	666.8	666.7	666.9
150°	678.7	679.1	679.5	679.9	680.3	680.5	680.3	680.2	680.1	679.9	679.9
152.5°	690.2	690.6	691.0	691.3	691.7	691.8	691.6	691.4	691.1	690.9	691.1
155°	706.8	706.9	707.0	707.1	707.3	707.1	706.8	706.4	706.0	705.6	706.1
157.5°	720.8	720.7	720.6	720.6	720.5	720.2	719.8	719.4	718.9	718.5	719.2
160°	729.0	728.6	728.2	727.9	727.5	727.2	727.1	727.0	726.8	726.7	727.5
162.5°	736.3	735.8	735.3	734.9	734.4	734.1	733.9	733.8	733.7	733.6	734.3
165°	745.5	744.9	744.3	743.6	743.0	742.7	742.7	742.7	742.7	742.7	743.7
167.5°	752.8	752.2	751.5	750.9	750.2	749.8	749.8	749.7	749.6	749.5	750.7
170°	757.0	756.2	755.4	754.7	753.9	753.6	753.7	753.8	754.0	754.1	755.1
172.5°	759.7	758.9	758.2	757.4	756.7	756.3	756.5	756.6	756.7	756.8	757.9
175°	762.7	761.9	761.1	760.4	759.6	759.3	759.4	759.6	759.7	759.8	760.9
177.5°	764.0	763.3	762.6	761.9	761.2	760.9	761.1	761.3	761.5	761.7	762.6
180°	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7



TEST NUMBER: P332502

CATALOG NUMBER: SA4XXDIP-C350D590U835-4F0-1E-UDD-D

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°	63.0	66.2	69.4	71.5	72.4	73.4	74.4	75.4
90°	67.0	70.8	74.7	77.1	78.2	79.3	80.4	81.5
92.5°	64.1	67.9	71.6	73.9	74.8	75.7	76.6	77.5
95°	60.9	64.5	68.1	70.5	71.5	72.6	73.7	74.8
97.5°	59.0	61.8	64.6	66.6	67.6	68.6	69.7	70.7
100°	62.4	63.1	63.8	64.6	65.4	66.3	67.2	68.0
102.5°	114.0	93.5	73.0	63.2	64.1	64.9	65.8	66.6
105°	216.8	220.5	224.3	224.3	220.6	216.9	213.2	209.4
107.5°	256.7	259.8	263.0	265.2	266.4	267.6	268.9	270.1
110°	283.9	286.6	289.2	291.2	292.4	293.6	294.8	296.1



TEST NUMBER: P332502

CATALOG NUMBER: SA4XXDIP-C350D590U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	310.0	312.2	314.5	316.3	317.7	319.0	320.3	321.6
115°	349.1	351.7	354.2	355.9	356.6	357.4	358.1	358.8
117.5°	388.3	390.4	392.6	394.0	394.8	395.6	396.4	397.2
120°	412.4	414.8	417.1	418.6	419.2	419.8	420.3	420.9
122.5°	436.3	438.6	440.8	442.2	442.7	443.2	443.7	444.2
125°	469.8	472.2	474.5	476.1	476.9	477.6	478.4	479.1
127.5°	502.6	504.4	506.2	507.4	508.0	508.6	509.3	509.9
130°	522.5	524.5	526.6	527.9	528.5	529.1	529.8	530.4
132.5°	542.3	544.2	546.2	547.4	547.9	548.5	549.0	549.5
135°	568.9	570.8	572.7	574.1	575.0	575.9	576.8	577.7
137.5°	594.7	596.5	598.4	599.5	599.9	600.4	600.8	601.3
140°	610.8	612.6	614.3	615.5	616.2	616.8	617.5	618.1
142.5°	625.9	627.4	628.9	629.9	630.3	630.8	631.3	631.7
145°	647.8	648.6	649.3	650.0	650.7	651.4	652.1	652.7
147.5°	667.1	667.3	667.5	667.8	668.2	668.7	669.2	669.6
150°	679.9	679.9	679.9	680.0	680.1	680.3	680.4	680.5
152.5°	691.3	691.5	691.7	691.8	691.7	691.6	691.5	691.5
155°	706.6	707.1	707.6	707.7	707.3	706.9	706.6	706.2
157.5°	719.8	720.5	721.1	721.1	720.5	719.8	719.2	718.5
160°	728.2	729.0	729.8	729.8	729.0	728.2	727.5	726.7
162.5°	735.1	735.8	736.6	736.6	735.7	734.8	734.0	733.1
165°	744.7	745.7	746.8	746.7	745.5	744.4	743.3	742.1
167.5°	751.8	752.9	754.0	753.9	752.7	751.4	750.1	748.9
170°	756.1	757.1	758.2	758.0	756.8	755.5	754.2	753.0
172.5°	758.9	759.9	760.9	760.7	759.4	758.0	756.6	755.2
175°	762.1	763.2	764.4	764.2	762.7	761.1	759.6	758.1
177.5°	763.4	764.2	765.0	764.8	763.6	762.4	761.1	759.9
180°	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7

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