

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: P332250-935

Luminaire Tested: **S123RDIP-S340D585U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332250-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D585U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2851.4 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

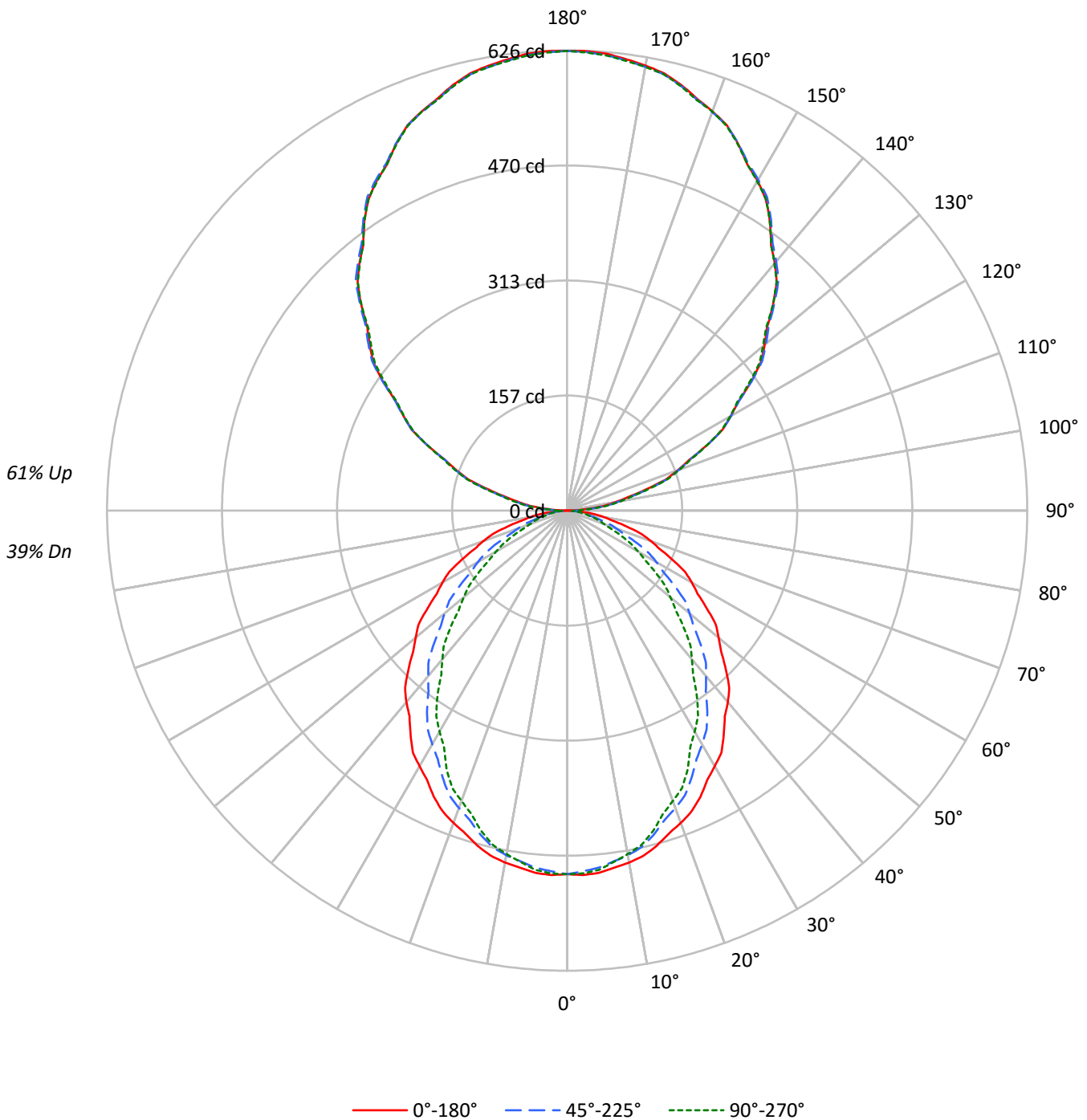
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332250-935

CATALOG NUMBER: S123RDIP-S340D585U935-4F0-1E-UDD-F1

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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39				
1	96	91	88	84	87	83	80	77	68	66	64	54	53	51	41	40	40	34				
2	87	80	74	69	79	73	68	64	60	56	53	48	45	43	37	35	34	29				
3	80	71	64	58	72	65	58	54	53	49	45	42	39	37	33	31	29	24				
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25	21				
5	67	56	48	42	61	51	44	39	42	37	33	34	30	28	26	24	22	19				
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16				
7	57	45	37	32	52	42	35	30	35	29	26	28	24	21	22	19	17	15				
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	20	18	16	13				
9	49	37	30	25	45	34	28	24	29	24	20	24	20	17	19	16	14	12				
10	46	34	27	23	42	32	25	21	27	22	18	22	18	16	17	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5324	5324	5324
5°	5344	5271	5302
10°	5314	5205	5187
15°	5258	5084	5029
20°	5179	4931	4816
25°	5099	4760	4608
30°	4992	4561	4313
35°	4882	4365	4043
40°	4780	4131	3710
45°	4647	3902	3408
50°	4501	3641	3069
55°	4352	3342	2755
60°	4215	3023	2409
65°	4037	2677	2063
70°	3811	2247	1668
75°	3489	1768	1568
80°	3106	1568	1438
85°	2631	1383	1284



TEST NUMBER: P332250-935

CATALOG NUMBER: S123RDIP-S340D585U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	1.6
10°-20°	129.2	4.5
20°-30°	186.1	6.5
30°-40°	209.6	7.4
40°-50°	200.5	7.0
50°-60°	164.2	5.8
60°-70°	110.8	3.9
70°-80°	55.7	2.0
80°-90°	16.6	0.6
90°-100°	40.7	1.4
100°-110°	121.9	4.3
110°-120°	207.3	7.3
120°-130°	272.7	9.6
130°-140°	306.5	10.7
140°-150°	301.3	10.6
150°-160°	253.7	8.9
160°-170°	168.9	5.9
170°-180°	59.1	2.1
0°-30°	361.8	12.7
0°-40°	571.4	20.0
0°-60°	936.2	32.8
0°-90°	1119.3	39.3
90°-120°	370.0	13.0
90°-150°	1250.5	43.9
90°-180°	1732.0	60.7
0°-180°	2851.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	495	495	495	495	495	
5°	495	492	488	491	491	47
15°	472	467	456	454	451	133
25°	429	419	401	393	388	197
35°	372	356	332	315	308	232
45°	305	286	256	234	224	235
55°	232	211	178	156	147	208
65°	158	136	105	86	81	157
75°	84	64	42	39	38	89
85°	21	13	11	10	10	24
90°	0	5	12	14	15	3
95°	29	32	36	38	38	33
105°	110	112	116	116	117	118
115°	209	210	209	210	209	206
125°	306	307	306	304	302	272
135°	396	399	399	397	396	305
145°	481	482	483	483	481	300
155°	550	551	551	553	550	253
165°	600	598	598	601	598	169
175°	624	622	622	624	621	59
180°	625	625	625	625	625	



TEST NUMBER: P332250-935

CATALOG NUMBER: S123RDIP-S340D585U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	496.3	495.9	495.7	495.4	495.2	494.6	493.7	492.8	492.0	491.1	491.9
5°	494.6	494.2	493.8	493.4	492.8	492.1	491.0	490.0	488.9	487.8	488.6
7.5°	490.1	489.6	489.1	488.6	488.2	487.2	485.9	484.5	483.0	481.6	482.1
10°	486.2	485.6	485.0	484.4	483.7	482.6	481.0	479.4	477.8	476.2	476.3
12.5°	480.8	480.1	479.4	478.7	478.0	476.6	474.7	472.8	470.8	468.8	468.7
15°	471.8	470.8	469.8	468.8	467.9	466.1	463.6	461.2	458.7	456.2	455.7
17.5°	460.5	459.3	458.2	457.0	455.9	453.7	450.6	447.4	444.3	441.1	440.1
20°	452.1	450.7	449.3	447.9	446.4	444.0	440.7	437.2	433.9	430.5	429.3
22.5°	442.8	441.2	439.5	437.9	436.3	433.7	430.1	426.5	422.8	419.2	417.8
25°	429.3	427.1	424.8	422.6	420.3	417.2	413.1	409.0	404.8	400.8	398.9
27.5°	412.8	410.4	407.9	405.4	402.9	399.5	394.9	390.3	385.7	381.2	378.6
30°	401.6	398.9	396.2	393.6	390.9	387.0	382.0	377.0	372.0	367.0	364.0
32.5°	390.4	387.3	384.3	381.3	378.2	374.1	368.8	363.5	358.3	352.9	349.7
35°	371.5	368.2	365.1	361.9	358.7	354.3	348.8	343.2	337.7	332.2	328.4
37.5°	352.4	348.8	345.3	341.7	338.1	333.4	327.5	321.6	315.7	309.8	305.5
40°	340.2	336.3	332.3	328.5	324.5	319.3	313.1	306.7	300.4	294.0	289.5
42.5°	326.4	322.4	318.6	314.6	310.7	305.5	298.9	292.4	285.9	279.3	274.2
45°	305.3	301.3	297.3	293.3	289.2	283.8	277.0	270.1	263.2	256.3	251.2
47.5°	284.2	279.8	275.3	271.0	266.6	261.0	254.1	247.2	240.4	233.5	228.0
50°	268.8	264.6	260.5	256.2	252.0	246.3	239.1	231.9	224.6	217.4	211.9
52.5°	255.0	250.5	245.9	241.3	236.8	230.9	223.8	216.6	209.5	202.3	196.7
55°	231.9	227.5	223.2	218.8	214.4	208.4	200.9	193.3	185.7	178.1	173.0
57.5°	210.5	205.8	201.0	196.2	191.5	185.3	177.7	170.0	162.5	154.9	150.0
60°	195.8	190.9	186.0	181.1	176.2	170.0	162.6	155.2	147.8	140.4	135.6
62.5°	181.0	176.1	171.2	166.3	161.4	155.2	147.8	140.4	133.0	125.6	121.1
65°	158.5	153.6	148.7	143.8	138.9	132.9	126.0	119.0	112.1	105.1	100.7
67.5°	136.0	131.0	126.0	121.1	116.1	110.3	103.6	96.9	90.2	83.6	80.3
70°	121.1	116.3	111.5	106.7	101.9	96.3	90.1	83.9	77.7	71.4	68.3
72.5°	106.4	101.7	96.9	92.1	87.4	82.2	76.5	70.9	65.2	59.5	57.0
75°	83.9	79.6	75.3	71.0	66.7	62.2	57.3	52.3	47.4	42.5	41.7
77.5°	63.3	59.4	55.5	51.7	47.9	44.3	41.2	38.0	34.9	31.7	31.3
80°	50.1	46.5	42.9	39.2	35.6	32.8	30.9	29.0	27.1	25.3	25.0
82.5°	37.6	34.4	31.3	28.2	25.0	23.0	22.1	21.3	20.4	19.5	19.2
85°	21.3	19.3	17.3	15.4	13.4	12.3	12.1	11.8	11.5	11.2	11.0
87.5°	7.8	7.2	6.6	6.1	5.5	5.4	5.7	5.9	6.3	6.5	6.5
90°	0.5	1.5	2.7	3.8	4.8	6.1	7.5	9.0	10.3	11.8	12.2
92.5°	11.9	12.7	13.3	14.1	14.9	15.7	16.4	17.2	18.1	18.9	19.2
95°	29.0	29.7	30.5	31.3	32.0	32.9	33.8	34.6	35.5	36.3	36.8
97.5°	51.5	52.0	52.6	53.2	53.7	54.3	54.9	55.6	56.2	56.9	57.3
100°	66.8	67.4	68.1	68.8	69.4	70.0	70.5	71.1	71.6	72.2	72.5
102.5°	84.5	84.9	85.2	85.7	86.0	86.6	87.3	88.1	88.8	89.5	89.8
105°	110.5	110.7	110.9	111.2	111.4	111.9	113.0	113.9	114.9	115.9	115.9
107.5°	140.8	140.9	141.0	141.1	141.3	141.5	141.9	142.3	142.8	143.1	143.4
110°	159.6	159.8	160.1	160.2	160.5	160.7	160.9	161.2	161.4	161.6	162.0



TEST NUMBER: P332250-935

CATALOG NUMBER: S123RDIP-S340D585U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.3	179.3	179.5	179.6	179.8	179.9	179.9	179.9	180.0	180.0	180.6
115°	208.7	209.1	209.4	209.7	210.0	210.1	209.8	209.7	209.4	209.2	209.3
117.5°	238.4	238.6	238.8	239.0	239.3	239.2	238.9	238.7	238.4	238.1	238.1
120°	256.8	257.5	258.1	258.8	259.5	259.5	259.0	258.5	257.9	257.4	257.3
122.5°	276.1	276.6	277.1	277.5	278.0	278.1	277.8	277.6	277.2	277.0	276.7
125°	305.5	305.8	306.1	306.4	306.8	306.9	306.6	306.4	306.2	306.0	305.5
127.5°	332.6	333.3	334.0	334.7	335.4	335.6	335.4	335.1	334.8	334.7	334.1
130°	350.7	351.5	352.4	353.3	354.1	354.4	354.1	353.8	353.4	353.1	352.7
132.5°	368.7	369.6	370.5	371.3	372.2	372.6	372.3	372.0	371.8	371.6	371.0
135°	396.3	397.0	397.6	398.3	398.9	399.2	399.1	399.0	398.9	398.8	398.4
137.5°	421.9	422.4	422.9	423.5	424.0	424.5	424.7	425.0	425.3	425.6	425.2
140°	439.5	440.1	440.7	441.2	441.7	442.0	442.1	442.3	442.4	442.5	442.4
142.5°	455.6	456.2	456.8	457.3	457.8	458.2	458.4	458.6	458.8	459.0	458.9
145°	480.8	481.0	481.2	481.5	481.6	481.9	482.2	482.6	482.9	483.3	483.1
147.5°	502.8	503.2	503.6	503.9	504.4	504.7	505.1	505.3	505.7	505.9	505.9
150°	518.1	518.3	518.6	518.8	519.0	519.2	519.4	519.6	519.9	520.0	520.0
152.5°	530.7	531.0	531.3	531.6	531.9	532.1	532.3	532.4	532.5	532.6	532.8
155°	550.5	550.5	550.5	550.5	550.5	550.6	550.7	550.8	551.0	551.0	551.5
157.5°	567.4	567.3	567.1	567.1	566.9	566.9	567.0	567.1	567.1	567.2	567.7
160°	578.0	577.8	577.6	577.4	577.1	577.0	577.0	577.0	577.0	577.0	577.6
162.5°	587.5	587.1	586.9	586.5	586.3	586.2	586.3	586.3	586.4	586.5	587.0
165°	599.6	599.3	599.0	598.7	598.3	598.1	598.1	598.1	598.1	598.1	598.8
167.5°	609.3	608.9	608.5	608.0	607.6	607.4	607.5	607.6	607.7	607.8	608.5
170°	614.8	614.4	614.0	613.5	613.1	612.9	612.9	612.9	612.9	612.9	613.6
172.5°	619.1	618.7	618.3	617.9	617.4	617.3	617.3	617.3	617.3	617.3	617.9
175°	623.7	623.3	622.8	622.4	622.0	621.7	621.7	621.7	621.7	621.7	622.4
177.5°	625.6	625.3	624.9	624.5	624.1	624.0	624.0	624.0	624.0	624.0	624.5
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2



TEST NUMBER: P332250-935

CATALOG NUMBER: S123RDIP-S340D585U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	492.7	493.4	494.3	494.6	494.5	494.3	494.1	494.0
5°	489.5	490.3	491.0	491.4	491.2	491.0	490.9	490.7
7.5°	482.6	483.0	483.5	483.5	483.2	482.9	482.6	482.3
10°	476.4	476.5	476.6	476.4	476.0	475.5	475.0	474.6
12.5°	468.7	468.6	468.6	468.3	467.8	467.3	466.7	466.2
15°	455.2	454.8	454.3	453.8	453.2	452.5	451.9	451.3
17.5°	439.2	438.2	437.3	436.4	435.4	434.5	433.6	432.7
20°	428.2	427.0	425.9	424.7	423.6	422.6	421.5	420.4
22.5°	416.4	414.9	413.5	412.2	411.2	410.3	409.2	408.3
25°	397.0	395.2	393.3	391.8	390.9	389.9	388.9	388.0
27.5°	376.0	373.4	370.8	368.8	367.2	365.8	364.3	362.7
30°	361.0	358.0	355.0	352.8	351.3	349.9	348.4	347.0
32.5°	346.3	343.0	339.7	337.3	335.8	334.3	332.8	331.3
35°	324.5	320.6	316.8	314.1	312.5	310.9	309.3	307.7
37.5°	301.1	296.7	292.4	289.2	287.2	285.2	283.3	281.3
40°	284.8	280.2	275.5	272.2	270.1	268.1	266.0	264.0
42.5°	269.1	264.2	259.1	255.6	253.7	251.9	250.1	248.2
45°	246.2	241.1	236.0	232.4	230.3	228.2	226.0	223.9
47.5°	222.4	216.9	211.4	207.7	205.8	203.9	201.9	200.0
50°	206.4	200.9	195.4	191.6	189.5	187.4	185.4	183.3
52.5°	190.9	185.1	179.4	175.6	173.7	171.9	170.1	168.2
55°	167.8	162.6	157.5	153.9	152.2	150.4	148.6	146.8
57.5°	145.1	140.2	135.3	132.1	130.6	129.1	127.6	126.1
60°	130.8	126.0	121.1	118.0	116.5	114.9	113.5	111.9
62.5°	116.6	112.1	107.5	104.4	102.9	101.3	99.7	98.2
65°	96.3	92.0	87.6	85.0	83.9	83.0	82.1	81.0
67.5°	77.1	73.8	70.5	68.4	67.3	66.3	65.3	64.2
70°	65.2	62.1	58.9	56.9	55.9	54.9	53.9	53.0
72.5°	54.4	51.9	49.3	47.9	47.4	47.0	46.7	46.2
75°	40.7	39.9	38.9	38.4	38.2	38.1	37.9	37.7
77.5°	30.7	30.2	29.8	29.4	29.3	29.1	28.9	28.8
80°	24.7	24.5	24.2	24.0	23.8	23.6	23.4	23.2
82.5°	18.9	18.7	18.4	18.3	18.3	18.2	18.2	18.2
85°	10.8	10.7	10.5	10.4	10.4	10.4	10.4	10.4
87.5°	6.5	6.5	6.6	6.6	6.5	6.5	6.5	6.5
90°	12.7	13.1	13.5	13.9	14.1	14.3	14.6	14.7
92.5°	19.5	19.9	20.2	20.4	20.2	20.1	20.0	19.8
95°	37.2	37.6	38.1	38.3	38.3	38.3	38.3	38.3
97.5°	57.9	58.4	58.9	59.1	59.1	59.0	59.0	58.9
100°	72.8	73.2	73.5	73.8	74.0	74.2	74.4	74.6
102.5°	90.1	90.5	90.7	90.9	90.9	90.8	90.8	90.7
105°	115.9	115.9	115.9	116.0	116.2	116.4	116.7	116.9
107.5°	143.8	144.1	144.5	144.6	144.5	144.4	144.2	144.1
110°	162.5	162.9	163.3	163.4	163.2	163.0	162.8	162.6



TEST NUMBER: P332250-935

CATALOG NUMBER: S123RDIP-S340D585U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	181.1	181.6	182.1	182.4	182.4	182.3	182.3	182.2
115°	209.4	209.6	209.7	209.7	209.6	209.4	209.3	209.2
117.5°	238.1	238.0	238.0	237.8	237.5	237.2	236.9	236.6
120°	257.1	257.0	256.9	256.8	256.5	256.3	256.1	255.9
122.5°	276.4	276.1	275.9	275.5	275.3	274.9	274.7	274.3
125°	305.1	304.6	304.2	303.8	303.3	302.9	302.5	302.0
127.5°	333.4	332.8	332.2	331.7	331.1	330.6	330.1	329.6
130°	352.2	351.8	351.4	350.8	350.0	349.2	348.4	347.7
132.5°	370.5	370.0	369.5	368.9	368.3	367.7	367.1	366.5
135°	397.9	397.4	397.0	396.7	396.5	396.2	396.1	395.8
137.5°	424.6	424.2	423.8	423.4	422.9	422.5	422.1	421.6
140°	442.3	442.1	442.0	441.6	440.8	440.1	439.3	438.6
142.5°	458.7	458.7	458.6	458.2	457.6	457.0	456.4	455.8
145°	483.0	482.9	482.8	482.5	482.1	481.6	481.2	480.8
147.5°	505.9	505.9	505.9	505.6	505.0	504.3	503.7	503.0
150°	520.0	520.0	520.0	519.8	519.1	518.4	517.8	517.1
152.5°	533.0	533.2	533.4	533.1	532.6	532.0	531.5	530.9
155°	551.9	552.3	552.8	552.6	551.8	551.0	550.4	549.6
157.5°	568.2	568.6	569.0	568.9	568.3	567.7	567.1	566.5
160°	578.2	578.7	579.2	579.3	578.9	578.4	578.0	577.6
162.5°	587.5	588.1	588.7	588.6	587.9	587.2	586.5	585.8
165°	599.5	600.1	600.8	600.7	599.9	599.2	598.5	597.7
167.5°	609.2	609.8	610.5	610.5	609.8	609.2	608.5	607.8
170°	614.4	615.2	616.0	616.0	615.2	614.4	613.6	612.9
172.5°	618.5	619.2	619.9	619.9	619.1	618.4	617.6	616.8
175°	623.0	623.7	624.4	624.3	623.5	622.8	622.0	621.2
177.5°	625.1	625.6	626.1	626.0	625.4	624.8	624.2	623.6
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2

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