

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: P332506-930

Luminaire Tested: **S124DIP-S350D590U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332506-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D590U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2905.8 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

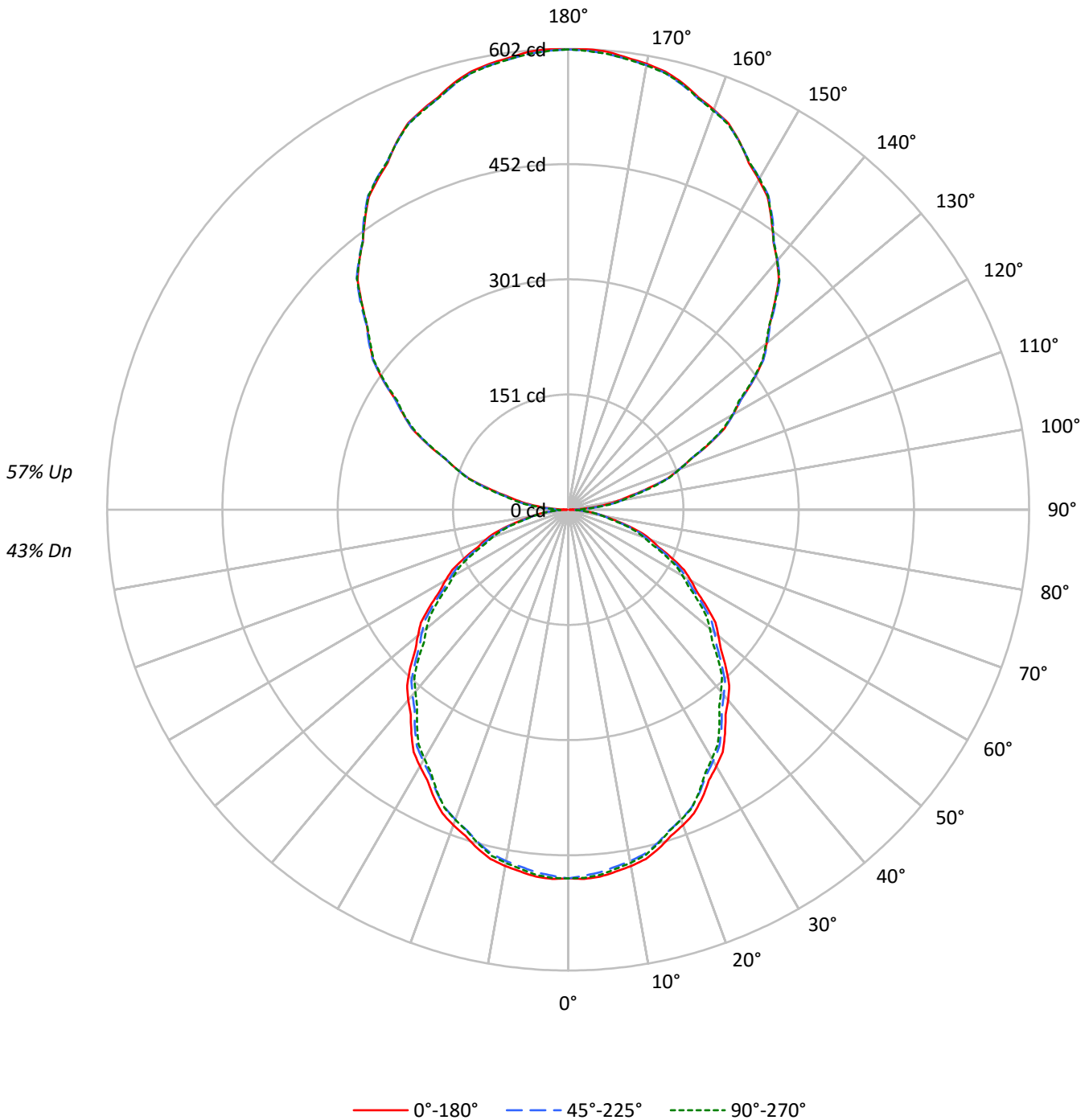
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332506-930

CATALOG NUMBER: S124DIP-S350D590U930-4F0-1E-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	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43
1	96	92	88	84	88	84	81	78	69	67	65	56	54	53	43	42	42	36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	37	35	30
3	80	70	63	57	73	65	58	53	54	49	45	43	40	37	34	32	30	25
4	73	62	54	48	66	57	50	45	48	42	38	39	35	32	30	28	26	22
5	67	55	47	41	61	51	44	39	42	37	33	35	31	28	27	25	22	19
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	23	20	17	15
8	53	41	33	28	48	37	31	26	32	26	22	26	22	19	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3888	3888	3888
5°	3900	3853	3881
10°	3875	3822	3841
15°	3828	3768	3777
20°	3766	3699	3703
25°	3695	3624	3613
30°	3608	3533	3500
35°	3517	3438	3392
40°	3424	3331	3270
45°	3327	3225	3164
50°	3218	3131	3034
55°	3102	3009	2911
60°	2984	2872	2785
65°	2854	2743	2632
70°	2705	2568	2469
75°	2480	2361	2299
80°	2208	2120	2064
85°	1936	1862	1815



TEST NUMBER: P332506-930

CATALOG NUMBER: S124DIP-S350D590U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	1.6
10°-20°	127.8	4.4
20°-30°	188.1	6.5
30°-40°	218.7	7.5
40°-50°	218.7	7.5
50°-60°	191.3	6.6
60°-70°	142.1	4.9
70°-80°	80.7	2.8
80°-90°	25.1	0.9
90°-100°	39.7	1.4
100°-110°	117.5	4.0
110°-120°	199.4	6.9
120°-130°	262.9	9.0
130°-140°	295.3	10.2
140°-150°	290.2	10.0
150°-160°	244.0	8.4
160°-170°	162.4	5.6
170°-180°	56.9	2.0
0°-30°	361.2	12.4
0°-40°	579.9	20.0
0°-60°	989.8	34.1
0°-90°	1237.7	42.6
90°-120°	356.5	12.3
90°-150°	1204.9	41.5
90°-180°	1668.0	57.4
0°-180°	2905.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	481	480	475	479	479	46
15°	458	456	451	453	452	129
25°	415	412	407	407	406	191
35°	357	354	349	346	344	223
45°	291	288	282	278	277	225
55°	220	219	214	209	207	197
65°	149	147	144	140	138	148
75°	80	78	76	74	74	84
85°	21	21	20	20	20	23
90°	1	6	10	13	14	3
95°	28	32	35	37	37	31
105°	108	109	111	112	114	115
115°	203	203	202	201	201	200
125°	295	295	295	294	293	263
135°	381	384	384	383	381	295
145°	463	464	465	464	463	289
155°	530	530	530	531	530	244
165°	577	576	575	577	576	163
175°	600	598	598	600	598	57
180°	601	601	601	601	601	



TEST NUMBER: P332506-930

CATALOG NUMBER: S124DIP-S350D590U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	482.8	482.7	482.4	482.2	482.0	481.5	480.8	480.0	479.3	478.5	479.2
5°	481.2	480.9	480.5	480.2	479.9	479.2	478.3	477.4	476.4	475.4	476.4
7.5°	476.8	476.4	476.1	475.7	475.4	474.7	473.6	472.6	471.6	470.5	471.2
10°	472.7	472.4	472.1	471.7	471.4	470.7	469.5	468.4	467.3	466.2	466.8
12.5°	467.5	467.2	466.8	466.4	466.1	465.4	464.1	463.0	461.8	460.6	461.4
15°	458.0	457.7	457.4	457.1	456.7	455.9	454.6	453.3	452.0	450.8	451.3
17.5°	446.7	446.3	445.9	445.5	445.0	444.2	443.0	441.7	440.5	439.3	439.6
20°	438.4	438.0	437.6	437.1	436.7	435.9	434.6	433.3	431.9	430.6	431.0
22.5°	429.4	428.8	428.3	427.7	427.1	426.2	424.9	423.7	422.4	421.1	421.6
25°	414.8	414.3	413.7	413.0	412.5	411.6	410.3	409.1	408.0	406.8	406.8
27.5°	398.2	397.5	397.0	396.3	395.7	394.8	393.7	392.6	391.5	390.4	390.2
30°	387.1	386.4	385.7	385.0	384.3	383.4	382.3	381.2	380.1	379.0	378.6
32.5°	375.4	374.7	374.1	373.5	372.8	371.9	370.8	369.6	368.4	367.2	366.8
35°	356.9	356.4	355.8	355.1	354.6	353.7	352.5	351.2	350.1	348.9	348.3
37.5°	337.6	337.0	336.5	336.0	335.4	334.5	333.2	331.9	330.6	329.3	328.6
40°	324.9	324.2	323.6	322.9	322.2	321.2	319.9	318.6	317.3	316.1	315.2
42.5°	311.4	311.0	310.5	310.1	309.7	308.8	307.4	305.9	304.5	303.1	302.1
45°	291.4	290.7	290.2	289.6	288.9	288.0	286.6	285.2	283.9	282.5	281.5
47.5°	270.4	270.0	269.6	269.2	268.8	268.0	266.7	265.4	264.2	262.9	261.8
50°	256.2	255.9	255.6	255.2	254.9	254.1	252.9	251.7	250.5	249.3	248.1
52.5°	242.4	241.9	241.5	241.1	240.7	239.9	238.6	237.3	236.0	234.8	233.7
55°	220.4	220.1	219.8	219.6	219.3	218.6	217.4	216.2	215.0	213.8	212.8
57.5°	199.3	199.1	198.8	198.5	198.2	197.5	196.2	195.1	193.9	192.7	191.8
60°	184.8	184.4	184.0	183.5	183.1	182.4	181.2	180.1	179.0	177.9	177.2
62.5°	170.6	170.3	169.9	169.6	169.2	168.4	167.2	166.1	164.9	163.7	163.0
65°	149.4	149.0	148.5	148.1	147.7	147.0	146.1	145.3	144.4	143.6	142.7
67.5°	127.9	127.5	127.1	126.7	126.3	125.7	124.9	124.1	123.3	122.4	121.6
70°	114.6	114.0	113.4	112.8	112.2	111.5	110.9	110.2	109.5	108.8	108.1
72.5°	100.4	99.8	99.2	98.7	98.0	97.4	96.9	96.4	95.8	95.2	94.7
75°	79.5	79.1	78.7	78.2	77.8	77.4	77.0	76.5	76.1	75.7	75.3
77.5°	59.5	59.4	59.1	58.9	58.8	58.5	58.1	57.7	57.3	57.0	56.8
80°	47.5	47.2	47.0	46.7	46.5	46.2	46.1	45.9	45.7	45.6	45.3
82.5°	35.7	35.6	35.5	35.4	35.2	35.1	35.1	35.1	35.1	35.1	35.0
85°	20.9	20.9	20.9	20.9	20.9	20.8	20.5	20.4	20.2	20.1	20.1
87.5°	8.3	8.5	8.6	8.8	9.0	9.0	9.1	9.3	9.4	9.5	9.5
90°	1.4	2.5	3.7	4.8	6.0	6.9	7.7	8.6	9.4	10.2	10.8
92.5°	9.9	11.3	12.6	13.9	15.2	16.1	16.7	17.3	17.9	18.4	18.8
95°	27.9	28.9	29.8	30.7	31.6	32.4	33.2	33.9	34.7	35.3	35.6
97.5°	48.8	49.5	50.2	51.0	51.7	52.5	53.3	54.2	55.0	55.9	56.3
100°	65.1	65.6	66.0	66.4	66.8	67.4	68.3	69.3	70.2	71.2	71.3
102.5°	82.2	82.3	82.5	82.7	82.8	83.4	84.2	85.0	85.9	86.7	87.1
105°	108.4	108.4	108.5	108.7	108.8	109.0	109.4	109.8	110.2	110.6	111.0
107.5°	135.7	135.9	136.0	136.2	136.3	136.4	136.4	136.5	136.6	136.6	136.9
110°	154.4	154.6	154.8	155.0	155.2	155.2	155.2	155.1	155.0	154.8	154.7



TEST NUMBER: P332506-930

CATALOG NUMBER: S124DIP-S350D590U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.7	173.7	173.8	173.8	173.9	173.8	173.7	173.4	173.3	173.1	173.0
115°	202.8	202.8	202.8	202.8	202.8	202.6	202.4	202.2	202.0	201.8	201.7
117.5°	230.1	230.2	230.2	230.3	230.4	230.4	230.2	230.1	229.9	229.8	229.4
120°	248.3	248.7	249.2	249.6	250.0	250.1	249.7	249.4	249.1	248.7	248.3
122.5°	267.3	267.4	267.6	267.7	267.9	268.0	267.8	267.7	267.5	267.4	267.0
125°	295.3	295.3	295.3	295.3	295.3	295.2	295.1	295.1	294.9	294.8	294.6
127.5°	320.7	321.0	321.3	321.6	321.9	322.0	321.8	321.6	321.5	321.3	321.1
130°	338.5	338.8	339.2	339.5	339.7	339.9	339.9	339.9	339.9	339.9	339.7
132.5°	356.8	357.0	357.2	357.4	357.7	357.8	357.7	357.6	357.5	357.4	357.2
135°	380.8	381.5	382.0	382.7	383.4	383.6	383.6	383.6	383.6	383.6	383.4
137.5°	407.1	407.3	407.6	407.9	408.2	408.5	408.6	408.8	409.0	409.1	408.9
140°	424.5	424.8	424.9	425.2	425.3	425.5	425.5	425.5	425.5	425.5	425.3
142.5°	440.5	440.8	441.0	441.2	441.4	441.4	441.3	441.2	441.2	441.1	441.1
145°	462.7	463.1	463.5	463.9	464.3	464.6	464.7	464.8	464.9	465.0	464.9
147.5°	484.6	485.1	485.6	486.1	486.7	486.8	486.7	486.7	486.6	486.5	486.4
150°	498.0	498.5	498.9	499.3	499.7	499.9	499.9	499.9	499.9	499.9	499.9
152.5°	510.7	510.9	511.2	511.4	511.7	511.8	511.9	512.0	512.1	512.2	512.4
155°	530.1	530.1	530.1	530.1	530.1	530.0	529.9	529.9	529.8	529.6	530.0
157.5°	546.5	546.3	546.1	545.9	545.8	545.6	545.6	545.6	545.6	545.5	545.8
160°	556.1	556.0	556.0	555.9	555.7	555.6	555.5	555.5	555.3	555.2	555.5
162.5°	565.1	564.8	564.5	564.3	564.0	563.8	563.7	563.6	563.5	563.4	563.9
165°	577.1	576.7	576.4	576.2	575.8	575.6	575.4	575.2	574.9	574.8	575.4
167.5°	586.3	585.9	585.4	585.0	584.6	584.3	584.3	584.4	584.4	584.4	585.1
170°	591.5	591.0	590.4	590.0	589.4	589.2	589.3	589.4	589.5	589.6	590.3
172.5°	595.2	594.8	594.4	593.9	593.5	593.3	593.3	593.3	593.3	593.4	594.0
175°	600.3	599.8	599.3	598.8	598.3	597.9	597.9	597.8	597.6	597.5	598.3
177.5°	602.0	601.6	601.2	600.8	600.3	600.1	600.1	600.1	600.1	600.1	600.7
180°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3



TEST NUMBER: P332506-930

CATALOG NUMBER: S124DIP-S350D590U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	479.9	480.6	481.3	481.6	481.5	481.4	481.4	481.3
5°	477.4	478.3	479.2	479.6	479.4	479.2	479.1	478.9
7.5°	472.0	472.8	473.5	473.9	473.8	473.6	473.5	473.4
10°	467.6	468.2	469.0	469.2	469.0	468.8	468.6	468.5
12.5°	462.1	462.8	463.7	463.9	463.7	463.4	463.2	462.9
15°	451.8	452.2	452.8	452.9	452.7	452.4	452.2	451.9
17.5°	439.9	440.3	440.6	440.7	440.5	440.3	440.2	440.0
20°	431.2	431.5	431.7	431.8	431.5	431.4	431.2	431.0
22.5°	422.0	422.5	423.0	423.1	422.7	422.4	422.1	421.8
25°	406.9	407.0	407.1	407.0	406.6	406.3	405.9	405.6
27.5°	390.0	389.8	389.6	389.2	388.8	388.4	387.9	387.5
30°	378.3	378.0	377.6	377.2	376.7	376.3	375.9	375.5
32.5°	366.4	366.0	365.6	365.2	364.8	364.3	363.9	363.5
35°	347.6	347.1	346.4	345.9	345.5	345.1	344.6	344.2
37.5°	328.0	327.3	326.7	326.1	325.5	325.0	324.4	323.8
40°	314.4	313.5	312.7	312.0	311.5	311.1	310.7	310.3
42.5°	301.1	300.1	299.1	298.5	298.2	297.9	297.6	297.3
45°	280.6	279.6	278.8	278.1	277.9	277.6	277.4	277.1
47.5°	260.7	259.7	258.6	257.8	257.1	256.5	255.8	255.2
50°	246.9	245.7	244.5	243.6	243.1	242.6	242.1	241.6
52.5°	232.7	231.6	230.6	229.7	229.0	228.4	227.7	227.1
55°	211.7	210.7	209.7	208.9	208.4	207.9	207.3	206.8
57.5°	190.8	189.8	188.8	188.1	187.6	187.1	186.6	186.1
60°	176.3	175.6	174.8	174.2	173.8	173.3	172.9	172.5
62.5°	162.3	161.6	160.9	160.3	159.9	159.5	159.1	158.6
65°	141.9	141.0	140.1	139.5	139.1	138.6	138.2	137.8
67.5°	120.7	119.9	119.1	118.6	118.5	118.4	118.3	118.1
70°	107.5	106.8	106.1	105.6	105.3	105.1	104.8	104.6
72.5°	94.2	93.6	93.0	92.6	92.4	92.1	91.9	91.6
75°	74.9	74.6	74.3	74.0	73.9	73.9	73.8	73.7
77.5°	56.7	56.7	56.6	56.4	56.2	55.9	55.7	55.5
80°	45.2	45.0	44.8	44.8	44.6	44.5	44.4	44.4
82.5°	34.8	34.7	34.7	34.6	34.5	34.3	34.2	34.2
85°	20.1	20.1	20.1	20.1	20.0	19.9	19.7	19.6
87.5°	9.7	9.9	9.9	10.0	10.1	10.1	10.2	10.2
90°	11.5	12.1	12.7	13.1	13.4	13.5	13.8	13.9
92.5°	19.2	19.6	19.9	20.1	20.3	20.4	20.5	20.6
95°	36.0	36.3	36.6	36.8	36.8	36.8	36.8	36.8
97.5°	56.7	57.0	57.4	57.6	57.6	57.6	57.6	57.6
100°	71.6	71.7	72.0	72.1	72.1	72.1	72.1	72.1
102.5°	87.3	87.6	87.9	88.1	88.2	88.3	88.4	88.5
105°	111.3	111.6	111.9	112.2	112.5	112.8	113.2	113.5
107.5°	137.2	137.5	137.8	137.9	137.9	137.9	137.9	137.9
110°	154.4	154.3	154.0	154.1	154.4	154.7	155.0	155.3



TEST NUMBER: P332506-930

CATALOG NUMBER: S124DIP-S350D590U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	173.0	172.9	172.9	172.9	173.0	173.0	173.1	173.2
115°	201.6	201.5	201.4	201.3	201.2	201.1	201.0	200.9
117.5°	229.1	228.8	228.4	228.1	227.9	227.7	227.5	227.3
120°	247.8	247.2	246.7	246.5	246.8	247.0	247.2	247.4
122.5°	266.7	266.4	266.0	265.6	265.2	264.9	264.5	264.2
125°	294.4	294.2	294.0	293.8	293.6	293.3	293.2	292.9
127.5°	320.9	320.7	320.5	320.3	320.2	320.0	319.8	319.7
130°	339.5	339.3	339.1	338.8	338.3	337.9	337.5	337.1
132.5°	357.0	356.8	356.6	356.4	356.2	356.0	355.9	355.7
135°	383.2	383.0	382.8	382.5	382.2	381.9	381.6	381.3
137.5°	408.5	408.3	408.1	407.9	408.0	408.1	408.1	408.2
140°	425.3	425.2	425.1	424.9	424.9	424.8	424.7	424.5
142.5°	441.1	441.1	441.0	441.0	441.0	441.0	440.9	440.9
145°	464.8	464.7	464.6	464.4	464.1	463.7	463.4	463.2
147.5°	486.3	486.2	486.2	486.1	486.0	485.8	485.8	485.7
150°	499.9	499.9	499.9	499.9	499.7	499.6	499.5	499.5
152.5°	512.7	512.9	513.1	513.1	512.9	512.6	512.3	512.1
155°	530.4	530.8	531.3	531.3	530.8	530.4	530.0	529.6
157.5°	546.2	546.5	546.8	546.7	546.4	546.1	545.7	545.4
160°	555.9	556.1	556.4	556.4	555.9	555.3	554.8	554.3
162.5°	564.5	565.1	565.7	565.7	565.2	564.6	564.1	563.6
165°	576.0	576.6	577.2	577.3	576.9	576.5	576.1	575.7
167.5°	585.6	586.3	586.9	586.9	586.3	585.6	585.0	584.3
170°	590.8	591.5	592.1	592.1	591.3	590.6	589.9	589.1
172.5°	594.8	595.5	596.1	596.1	595.4	594.7	593.9	593.3
175°	599.0	599.7	600.4	600.4	599.7	599.0	598.3	597.5
177.5°	601.3	601.9	602.4	602.4	601.8	601.1	600.4	599.7
180°	601.3	601.3	601.3	601.3	601.3	601.3	601.3	601.3

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