

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: P332505-930

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332505-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
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-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3161.1 lumens
Efficiency: N/A
Efficacy: 123.5 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: Semi-Indirect

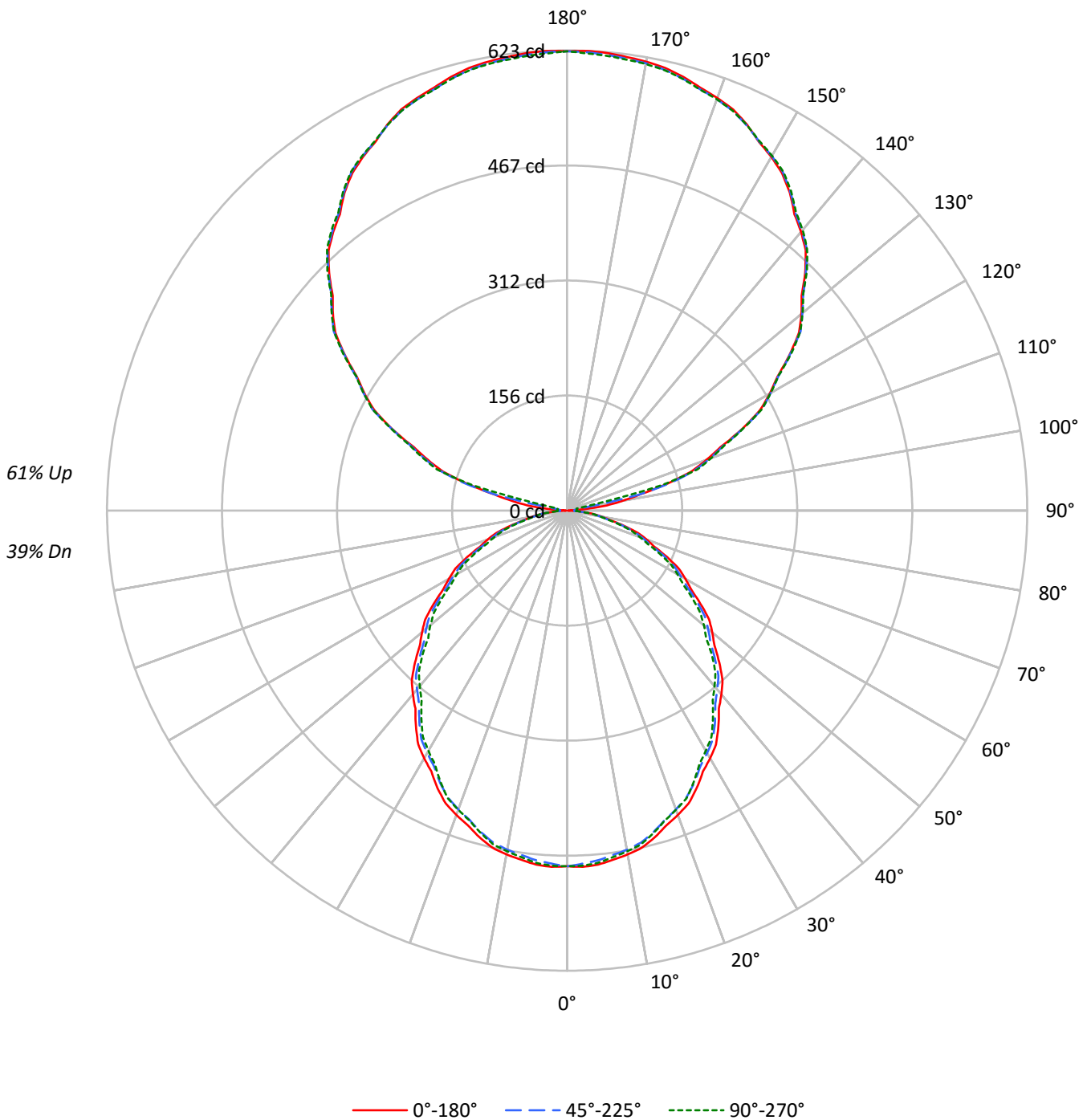
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332505-930

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

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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	86	83	80	77	68	65	63	54	52	51	41	40	39	33
2	87	79	73	68	79	72	67	63	59	56	52	47	45	42	36	34	33	28
3	79	70	63	57	72	64	57	52	52	48	44	42	38	36	32	30	28	23
4	72	62	54	48	65	56	50	44	46	41	37	37	33	31	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	26	23	21	17
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	37	31	51	41	34	29	34	28	25	27	23	20	21	18	16	14
8	52	40	33	27	47	37	30	25	31	26	22	25	21	18	19	17	15	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	17	21	17	15	17	14	12	10

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: P332505-930

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	1.4
10°-20°	127.8	4.0
20°-30°	188.1	6.0
30°-40°	218.7	6.9
40°-50°	218.7	6.9
50°-60°	191.3	6.1
60°-70°	142.1	4.5
70°-80°	80.7	2.6
80°-90°	25.1	0.8
90°-100°	21.3	0.7
100°-110°	135.6	4.3
110°-120°	259.4	8.2
120°-130°	329.3	10.4
130°-140°	352.3	11.1
140°-150°	329.4	10.4
150°-160°	265.7	8.4
160°-170°	171.4	5.4
170°-180°	59.1	1.9
0°-30°	361.2	11.4
0°-40°	579.9	18.3
0°-60°	989.8	31.3
0°-90°	1237.7	39.2
90°-120°	416.3	13.2
90°-150°	1427.3	45.2
90°-180°	1923.0	60.8
0°-180°	3161.1	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	2
95°	26	11	10	13	14	33
105°	140	143	145	148	133	146
115°	261	263	262	263	263	257
125°	367	369	368	370	370	328
135°	456	455	457	458	459	351
145°	526	527	527	527	528	328
155°	576	577	575	577	576	266
165°	608	606	606	609	605	172
175°	622	619	620	623	618	59
180°	622	622	622	622	622	



TEST NUMBER: P332505-930

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

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°	5.9	6.0	6.0	6.0	6.1	6.5	7.4	8.2	9.0	9.9	10.5
95°	25.6	22.1	18.6	15.0	11.5	9.8	9.9	10.0	10.1	10.2	10.8
97.5°	54.3	56.5	58.7	60.9	63.1	58.4	46.9	35.4	23.8	12.3	12.3
100°	76.2	78.1	80.0	81.9	83.7	77.5	63.3	49.0	34.7	20.5	18.7
102.5°	100.9	102.2	103.5	104.9	106.3	106.1	104.2	102.3	100.4	98.6	79.7
105°	140.0	140.6	141.2	141.9	142.4	143.0	143.6	144.1	144.6	145.1	146.0
107.5°	176.3	176.7	177.0	177.2	177.6	178.1	178.8	179.5	180.2	180.9	181.4
110°	200.9	201.2	201.5	201.9	202.1	202.6	203.3	203.8	204.5	205.1	205.3



TEST NUMBER: P332505-930

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	224.7	225.3	225.8	226.4	227.0	227.4	227.6	228.0	228.3	228.5	228.5
115°	261.4	261.7	262.0	262.3	262.6	262.7	262.6	262.5	262.4	262.3	262.5
117.5°	294.4	294.8	295.2	295.6	296.0	296.4	296.6	296.9	297.0	297.3	297.3
120°	316.7	317.2	317.6	318.0	318.4	318.5	318.5	318.3	318.2	318.1	318.3
122.5°	337.5	337.8	338.0	338.3	338.5	338.8	338.9	339.0	339.2	339.3	339.4
125°	367.4	367.8	368.3	368.7	369.1	369.2	368.9	368.8	368.5	368.4	368.7
127.5°	395.7	395.7	395.9	396.0	396.1	396.4	396.9	397.3	397.8	398.3	398.2
130°	413.9	414.0	414.1	414.3	414.3	414.5	414.8	415.2	415.5	415.8	415.9
132.5°	430.6	430.8	431.0	431.2	431.4	431.7	432.1	432.4	432.8	433.3	433.3
135°	455.8	455.7	455.6	455.4	455.3	455.5	455.9	456.3	456.7	457.1	457.4
137.5°	478.0	478.0	478.1	478.1	478.2	478.4	478.8	479.3	479.8	480.2	480.5
140°	492.5	492.7	492.9	493.1	493.3	493.5	493.7	494.0	494.2	494.4	494.6
142.5°	505.6	505.9	506.3	506.6	507.0	507.3	507.4	507.5	507.6	507.8	508.0
145°	525.5	525.9	526.1	526.4	526.8	526.9	526.9	526.9	526.9	526.9	527.0
147.5°	541.4	542.0	542.6	543.2	543.7	544.0	543.9	543.8	543.6	543.6	543.6
150°	552.9	553.3	553.8	554.2	554.6	554.8	554.6	554.6	554.5	554.3	554.3
152.5°	562.6	563.0	563.3	563.6	563.9	564.0	563.9	563.7	563.5	563.3	563.5
155°	576.3	576.3	576.4	576.5	576.7	576.5	576.3	575.9	575.6	575.3	575.7
157.5°	587.7	587.6	587.5	587.5	587.4	587.2	586.9	586.5	586.1	585.8	586.4
160°	594.4	594.0	593.7	593.5	593.1	592.9	592.8	592.7	592.6	592.5	593.1
162.5°	600.3	599.9	599.5	599.2	598.8	598.5	598.3	598.3	598.2	598.1	598.7
165°	607.8	607.3	606.8	606.3	605.8	605.5	605.5	605.5	605.5	605.5	606.3
167.5°	613.8	613.3	612.7	612.2	611.6	611.3	611.3	611.2	611.1	611.1	612.0
170°	617.2	616.5	615.9	615.3	614.7	614.4	614.5	614.6	614.7	614.8	615.6
172.5°	619.4	618.7	618.2	617.5	616.9	616.6	616.8	616.9	616.9	617.0	617.9
175°	621.8	621.2	620.5	620.0	619.3	619.1	619.1	619.3	619.4	619.5	620.4
177.5°	622.9	622.3	621.7	621.2	620.6	620.4	620.5	620.7	620.9	621.0	621.7
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8



TEST NUMBER: P332505-930

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

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°	11.1	11.7	12.3	12.6	12.7	12.7	12.8	12.8
95°	11.5	12.1	12.7	13.0	13.2	13.3	13.4	13.5
97.5°	12.4	12.5	12.6	12.6	12.7	12.8	12.9	13.0
100°	17.0	15.2	13.5	12.6	12.7	12.8	12.9	13.0
102.5°	60.7	41.7	22.7	13.3	13.4	13.4	13.4	13.4
105°	147.0	147.9	148.8	147.4	143.7	140.0	136.2	132.6
107.5°	181.8	182.3	182.7	183.1	183.5	183.9	184.3	184.7
110°	205.5	205.7	205.9	206.2	206.5	206.8	207.1	207.4



TEST NUMBER: P332505-930

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	228.4	228.4	228.4	228.5	228.9	229.3	229.8	230.1
115°	262.7	262.9	263.1	263.3	263.3	263.3	263.3	263.3
117.5°	297.2	297.2	297.1	297.1	297.0	297.0	296.9	296.9
120°	318.5	318.7	318.9	318.9	318.7	318.5	318.3	318.1
122.5°	339.6	339.7	339.8	339.7	339.6	339.3	339.2	338.9
125°	368.9	369.2	369.6	369.8	369.9	370.0	370.1	370.2
127.5°	398.2	398.1	398.0	397.9	397.9	397.8	397.7	397.6
130°	416.0	416.0	416.2	416.2	416.2	416.2	416.2	416.2
132.5°	433.5	433.6	433.7	433.7	433.6	433.5	433.4	433.3
135°	457.5	457.8	458.0	458.2	458.4	458.6	458.9	459.0
137.5°	480.7	480.9	481.1	481.2	481.2	481.1	481.0	480.9
140°	495.0	495.3	495.6	495.8	495.9	496.0	496.1	496.2
142.5°	508.2	508.4	508.7	508.8	508.8	508.8	508.8	508.9
145°	527.1	527.3	527.3	527.5	527.7	527.9	528.2	528.3
147.5°	543.7	543.8	543.9	544.0	544.1	544.2	544.3	544.4
150°	554.3	554.3	554.3	554.4	554.5	554.6	554.7	554.8
152.5°	563.6	563.8	563.9	564.0	563.9	563.9	563.8	563.8
155°	576.1	576.5	576.9	577.0	576.7	576.3	576.1	575.8
157.5°	586.9	587.4	587.9	587.9	587.4	586.9	586.4	585.8
160°	593.7	594.4	595.0	595.0	594.4	593.7	593.1	592.5
162.5°	599.3	599.9	600.5	600.5	599.8	599.1	598.4	597.7
165°	607.2	608.0	608.9	608.8	607.8	606.9	606.0	605.0
167.5°	612.9	613.8	614.7	614.7	613.7	612.6	611.6	610.6
170°	616.4	617.3	618.2	618.0	617.0	616.0	614.9	613.9
172.5°	618.7	619.5	620.4	620.2	619.1	618.0	616.9	615.7
175°	621.3	622.2	623.2	623.1	621.8	620.5	619.3	618.1
177.5°	622.4	623.1	623.7	623.5	622.6	621.6	620.5	619.5
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8

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