

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: P331877-830

Luminaire Tested: **S123DIP-S340D585U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331877-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D585U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3563.5 lumens  
Efficiency: N/A  
Efficacy: 139.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

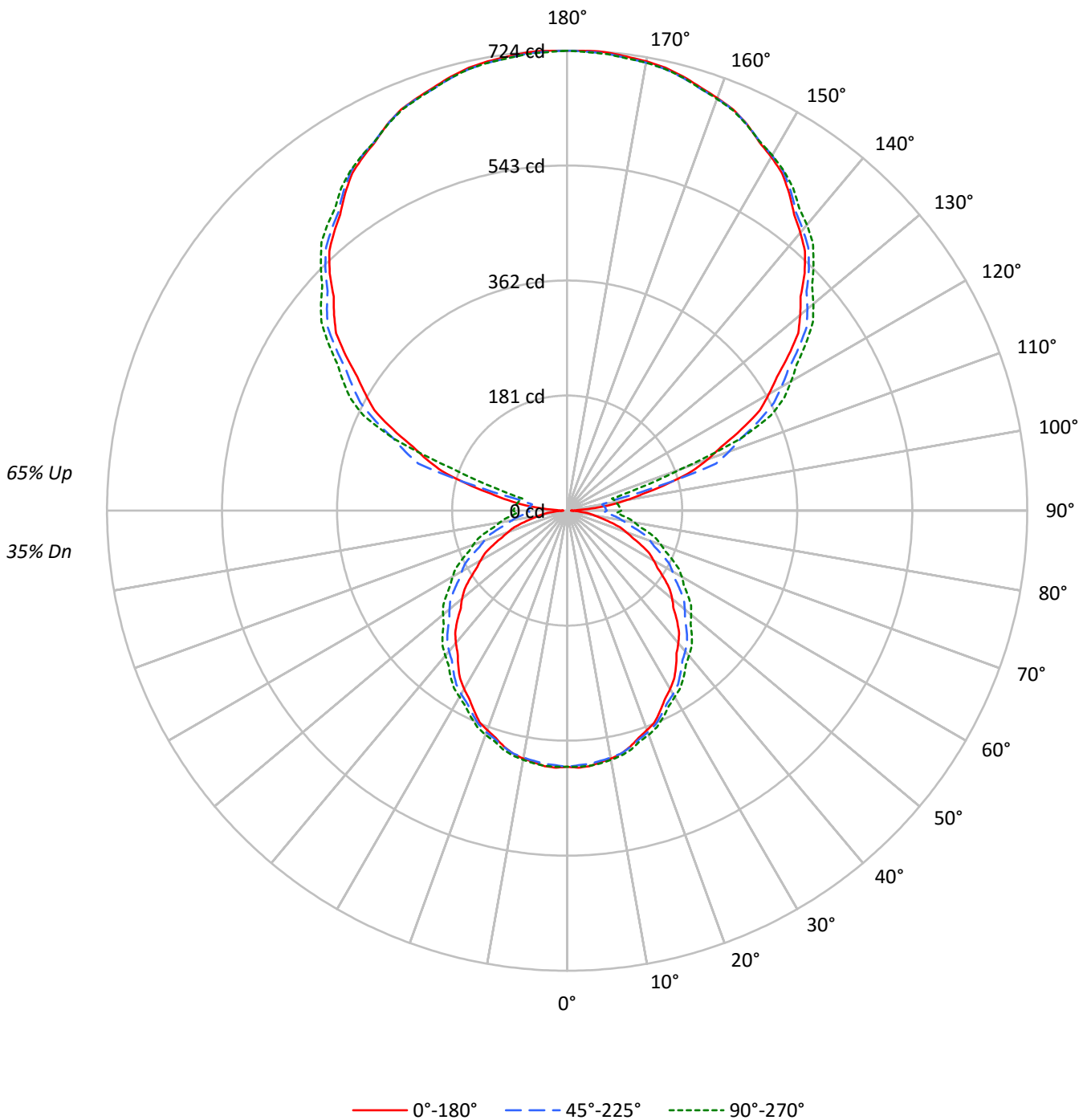
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

**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	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	64	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	28	25	24	19
4	71	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	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	39	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°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.2	1.1
10°-20°	108.9	3.1
20°-30°	163.0	4.6
30°-40°	194.6	5.5
40°-50°	203.6	5.7
50°-60°	191.1	5.4
60°-70°	159.6	4.5
70°-80°	114.2	3.2
80°-90°	70.1	2.0
90°-100°	69.0	1.9
100°-110°	156.8	4.4
110°-120°	322.1	9.0
120°-130°	395.5	11.1
130°-140°	415.1	11.6
140°-150°	384.3	10.8
150°-160°	309.1	8.7
160°-170°	199.5	5.6
170°-180°	68.7	1.9
0°-30°	310.1	8.7
0°-40°	504.7	14.2
0°-60°	899.4	25.2
0°-90°	1243.2	34.9
90°-120°	547.9	15.4
90°-150°	1742.9	48.9
90°-180°	2320.0	65.1
0°-180°	3563.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	6	33	62	79	85	5
95°	38	34	60	77	82	44
105°	164	178	151	73	73	173
115°	303	312	332	347	354	299
125°	425	430	444	454	458	380
135°	528	531	538	547	548	407
145°	609	612	613	618	620	381
155°	670	669	670	672	669	309
165°	707	705	705	709	705	200
175°	724	721	721	725	721	69
180°	724	724	724	724	724	



TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.8	16.9	22.0	27.1	32.1	37.4	42.7	48.0	53.3	58.5	61.9
90°	6.2	12.3	18.2	24.2	30.2	36.4	43.0	49.5	56.0	62.5	66.4
92.5°	15.4	19.3	23.3	27.3	31.3	36.3	42.4	48.4	54.5	60.6	64.6
95°	37.6	36.6	35.4	34.3	33.3	35.7	41.8	48.0	54.0	60.1	64.0
97.5°	70.2	71.4	72.7	73.9	75.1	73.8	69.7	65.7	61.6	57.6	61.5
100°	94.8	100.3	105.8	111.3	116.9	112.5	98.4	84.3	70.1	56.0	59.8
102.5°	122.8	127.3	131.9	136.4	141.0	135.3	119.3	103.4	87.4	71.4	71.3
105°	163.7	167.4	171.1	174.7	178.3	176.9	170.3	163.8	157.2	150.7	132.2
107.5°	206.4	209.4	212.4	215.6	218.6	222.9	228.7	234.3	240.0	245.6	232.7
110°	234.9	237.6	240.3	243.0	245.7	249.7	254.9	260.1	265.3	270.6	269.2



TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	262.4	264.7	267.0	269.3	271.6	275.3	280.3	285.4	290.5	295.6	298.0
115°	302.7	304.6	306.5	308.4	310.3	313.5	318.1	322.6	327.3	331.9	335.4
117.5°	342.0	343.7	345.3	346.9	348.5	351.2	355.1	358.9	362.8	366.6	369.9
120°	366.3	367.8	369.4	370.9	372.5	375.0	378.6	382.2	385.8	389.4	392.6
122.5°	391.2	392.3	393.4	394.6	395.8	398.0	401.6	405.1	408.6	412.2	415.0
125°	424.9	425.9	426.9	427.8	428.8	430.9	434.2	437.5	440.8	444.1	446.4
127.5°	458.1	458.9	459.8	460.6	461.5	463.4	466.3	469.2	472.1	475.0	477.3
130°	478.7	479.6	480.4	481.3	482.1	483.8	486.2	488.6	491.1	493.5	495.8
132.5°	498.1	499.1	500.0	501.0	501.9	503.3	505.3	507.2	509.2	511.0	513.3
135°	528.3	528.9	529.5	530.1	530.7	531.8	533.4	534.9	536.5	538.0	540.2
137.5°	553.9	554.8	555.6	556.5	557.3	558.2	559.0	559.9	560.7	561.6	563.7
140°	570.8	571.6	572.2	573.0	573.7	574.4	575.0	575.7	576.4	576.9	578.9
142.5°	586.7	587.4	588.1	588.6	589.3	589.8	590.2	590.7	591.1	591.4	593.1
145°	609.0	609.7	610.5	611.2	611.9	612.5	612.7	612.9	613.1	613.4	614.4
147.5°	629.5	630.1	630.7	631.1	631.7	632.1	632.4	632.5	632.8	633.1	633.6
150°	642.4	642.8	643.1	643.5	643.9	644.1	644.4	644.6	644.9	645.1	645.4
152.5°	654.0	654.2	654.3	654.5	654.7	654.9	655.0	655.2	655.3	655.4	655.8
155°	670.3	670.1	669.9	669.7	669.4	669.4	669.5	669.6	669.7	669.9	670.4
157.5°	683.1	683.1	683.0	683.0	683.0	682.9	682.8	682.7	682.5	682.4	683.2
160°	690.8	690.7	690.6	690.4	690.3	690.2	690.0	689.9	689.8	689.8	690.4
162.5°	698.1	697.8	697.5	697.2	696.8	696.6	696.5	696.4	696.3	696.2	697.0
165°	706.9	706.5	706.2	705.9	705.5	705.2	705.1	705.0	704.9	704.7	705.8
167.5°	713.8	713.3	712.8	712.4	711.9	711.6	711.6	711.6	711.6	711.6	712.7
170°	717.7	717.2	716.7	716.2	715.8	715.5	715.5	715.5	715.5	715.5	716.5
172.5°	720.3	719.7	719.1	718.5	717.9	717.7	717.8	717.9	718.0	718.1	719.1
175°	723.6	723.0	722.4	721.8	721.2	721.0	721.0	721.2	721.3	721.4	722.3
177.5°	724.4	724.0	723.5	723.0	722.6	722.4	722.5	722.6	722.6	722.7	723.5
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6



TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	65.3	68.8	72.2	74.4	75.4	76.4	77.5	78.5
90°	70.1	73.9	77.8	80.2	81.4	82.7	83.9	85.1
92.5°	68.6	72.6	76.6	79.1	80.1	81.2	82.3	83.3
95°	67.9	71.7	75.6	78.0	79.0	79.9	81.0	81.9
97.5°	65.3	69.2	73.0	75.6	76.6	77.8	78.9	79.9
100°	63.5	67.3	71.1	73.5	74.6	75.7	76.8	77.9
102.5°	71.1	70.9	70.6	71.2	72.3	73.5	74.6	75.9
105°	113.9	95.4	77.0	68.3	69.5	70.6	71.7	72.9
107.5°	219.9	207.0	194.1	180.1	165.0	150.0	134.9	119.8
110°	267.8	266.4	264.9	256.1	239.8	223.5	207.2	190.9





TEST NUMBER: P331877-830

CATALOG NUMBER: S123DIP-S340D585U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	300.6	303.1	305.7	305.6	302.8	300.1	297.3	294.5
115°	338.9	342.4	346.0	348.4	349.7	350.9	352.1	353.5
117.5°	373.2	376.5	379.8	381.8	382.7	383.5	384.4	385.2
120°	395.8	399.0	402.2	404.2	404.8	405.5	406.1	406.9
122.5°	417.8	420.7	423.5	425.3	426.0	426.9	427.6	428.4
125°	448.7	451.0	453.3	454.9	455.8	456.8	457.6	458.5
127.5°	479.7	482.0	484.3	485.7	486.1	486.5	486.9	487.4
130°	498.1	500.5	502.8	504.2	504.5	504.8	505.2	505.6
132.5°	515.6	517.8	520.1	521.4	521.7	522.1	522.4	522.7
135°	542.2	544.3	546.5	547.6	547.7	547.9	548.0	548.1
137.5°	565.8	568.0	570.0	571.3	571.5	571.7	572.0	572.2
140°	580.9	582.8	584.8	585.8	586.1	586.4	586.5	586.8
142.5°	594.8	596.5	598.2	599.2	599.3	599.5	599.6	599.7
145°	615.4	616.4	617.5	618.2	618.6	619.0	619.3	619.7
147.5°	634.0	634.5	635.0	635.1	634.9	634.7	634.5	634.3
150°	645.5	645.8	646.0	646.1	645.9	645.7	645.6	645.5
152.5°	656.3	656.7	657.1	657.1	656.6	656.1	655.5	655.1
155°	671.0	671.7	672.2	672.1	671.5	670.7	670.1	669.3
157.5°	683.8	684.6	685.3	685.1	684.2	683.3	682.4	681.5
160°	691.2	691.8	692.6	692.5	691.7	690.9	690.0	689.2
162.5°	697.8	698.6	699.5	699.5	698.7	698.0	697.2	696.5
165°	706.7	707.7	708.6	708.7	707.8	707.0	706.2	705.3
167.5°	713.6	714.5	715.5	715.5	714.5	713.6	712.7	711.6
170°	717.5	718.4	719.3	719.3	718.4	717.5	716.5	715.5
172.5°	720.0	721.0	721.9	721.9	720.9	719.8	718.7	717.7
175°	723.1	724.0	724.8	724.7	723.8	722.8	721.9	720.9
177.5°	724.2	725.0	725.8	725.7	724.7	723.8	722.8	721.9
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6

(END OF REPORT)