

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: P331886-930

Luminaire Tested: **S123DIP-S340D805U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331886-930  
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-S340D805U930-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3790.6 lumens  
Efficiency: N/A  
Efficacy: 121.5 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

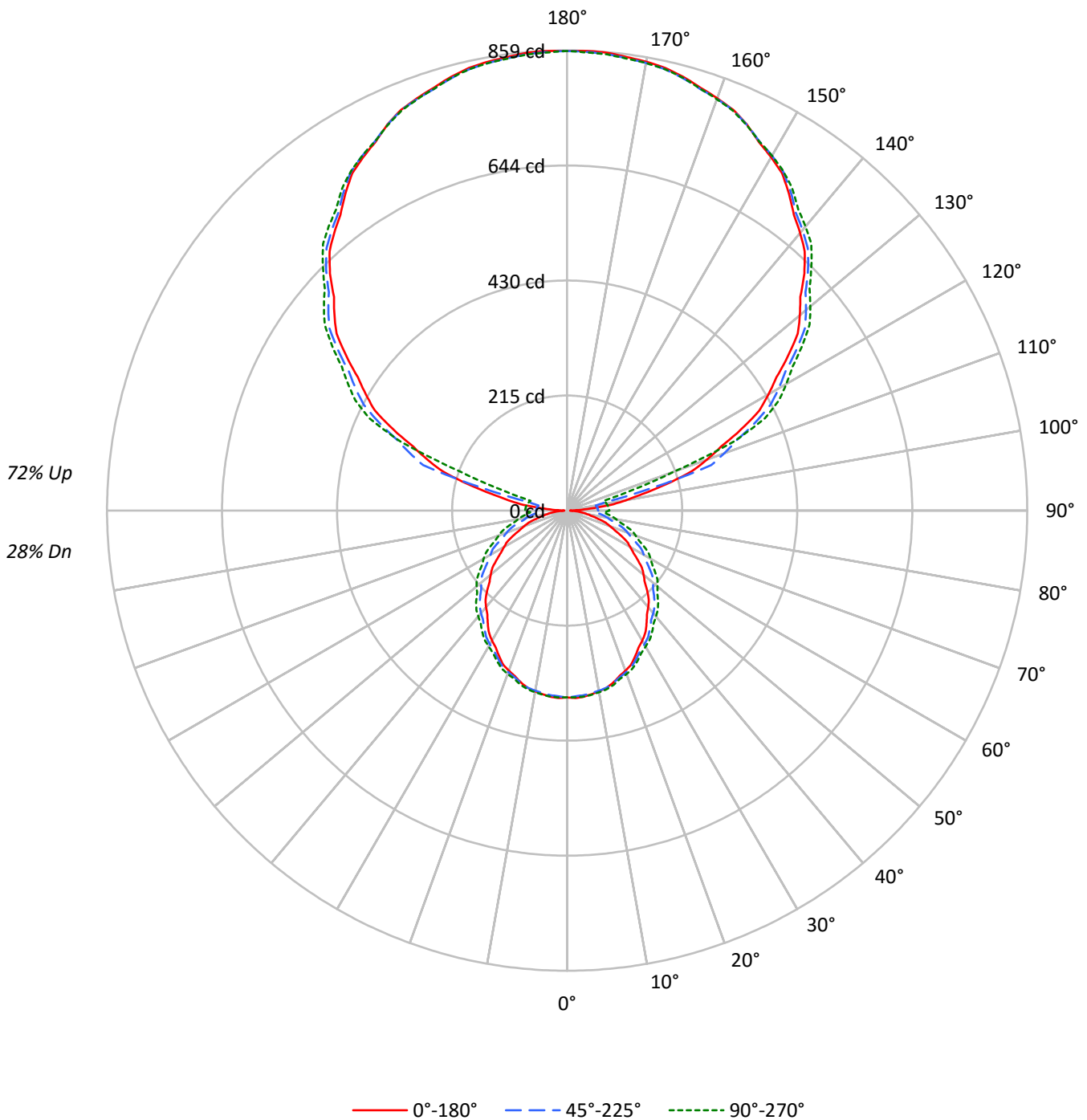
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

**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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28				
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23				
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	26	24	18				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	29	24	22	20	15				
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13				
5	64	52	44	38	57	47	40	35	37	32	28	28	24	21	19	17	15	11				
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8				
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7				
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.1	0.9
10°-20°	94.2	2.5
20°-30°	141.0	3.7
30°-40°	168.3	4.4
40°-50°	176.1	4.6
50°-60°	165.3	4.4
60°-70°	138.0	3.6
70°-80°	98.8	2.6
80°-90°	61.3	1.6
90°-100°	68.1	1.8
100°-110°	175.8	4.6
110°-120°	375.2	9.9
120°-130°	465.1	12.3
130°-140°	490.5	12.9
140°-150°	455.3	12.0
150°-160°	366.5	9.7
160°-170°	236.5	6.2
170°-180°	81.5	2.2
0°-30°	268.3	7.1
0°-40°	436.6	11.5
0°-60°	778.0	20.5
0°-90°	1076.1	28.4
90°-120°	619.2	16.3
90°-150°	2030.1	53.6
90°-180°	2715.0	71.6
0°-180°	3790.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	31	58	73	79	5
95°	43	34	57	73	77	51
105°	193	206	168	72	71	204
115°	358	367	386	401	407	354
125°	503	509	522	531	535	450
135°	626	630	636	644	645	482
145°	722	726	727	731	733	452
155°	795	794	794	797	794	366
165°	838	836	836	840	836	237
175°	858	855	855	859	855	82
180°	858	858	858	858	858	



TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.8	19.2	23.7	28.2	32.8	37.4	42.1	46.8	51.4	54.5
90°	5.5	11.2	16.7	22.3	27.8	33.7	39.8	45.9	52.1	58.2	61.6
92.5°	16.5	19.8	23.2	26.5	29.8	34.3	39.9	45.6	51.2	56.8	60.5
95°	43.0	40.5	38.0	35.5	33.0	34.6	40.3	46.0	51.7	57.4	61.0
97.5°	81.9	82.3	82.6	83.0	83.3	80.4	74.1	67.9	61.6	55.4	59.0
100°	111.1	116.7	122.2	127.8	133.3	126.9	108.8	90.5	72.3	54.1	57.6
102.5°	144.5	149.0	153.4	157.9	162.4	154.4	134.1	113.8	93.5	73.1	72.1
105°	193.0	196.6	200.2	203.7	207.3	204.6	195.4	186.3	177.2	168.1	145.4
107.5°	243.8	246.7	249.7	252.7	255.7	259.8	265.3	270.8	276.2	281.7	265.5
110°	277.6	280.3	282.9	285.6	288.2	292.0	297.0	301.9	306.9	311.8	309.3



TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	310.3	312.5	314.8	317.1	319.4	322.9	327.7	332.5	337.3	342.1	344.3
115°	358.2	360.0	361.9	363.8	365.7	368.8	373.1	377.4	381.7	386.0	389.5
117.5°	404.9	406.6	408.2	409.9	411.6	414.2	417.7	421.2	424.7	428.2	431.4
120°	433.7	435.4	437.1	438.8	440.4	443.0	446.1	449.3	452.6	455.8	458.9
122.5°	463.3	464.6	465.8	467.1	468.3	470.5	473.8	477.0	480.1	483.3	486.0
125°	503.4	504.5	505.6	506.8	507.9	510.1	513.1	516.1	519.0	522.0	524.2
127.5°	542.7	543.7	544.8	545.8	546.9	548.8	551.5	554.2	556.8	559.5	561.7
130°	567.1	568.2	569.2	570.3	571.4	573.0	575.3	577.5	579.8	582.0	584.2
132.5°	590.3	591.4	592.6	593.6	594.8	596.2	598.0	599.8	601.6	603.4	605.5
135°	626.1	626.8	627.6	628.4	629.1	630.2	631.7	633.2	634.7	636.2	638.1
137.5°	656.6	657.5	658.6	659.6	660.6	661.5	662.3	663.2	664.1	664.9	666.9
140°	676.6	677.5	678.3	679.2	680.0	680.9	681.5	682.2	682.9	683.5	685.3
142.5°	695.5	696.3	697.1	697.9	698.6	699.3	699.8	700.3	700.7	701.2	702.8
145°	721.9	722.8	723.7	724.6	725.5	726.1	726.4	726.7	727.0	727.2	728.2
147.5°	746.4	747.1	747.7	748.4	749.0	749.5	749.7	750.0	750.3	750.6	751.1
150°	761.7	762.1	762.5	763.0	763.4	763.8	764.0	764.3	764.6	764.9	765.2
152.5°	775.4	775.7	775.8	776.1	776.2	776.4	776.6	776.7	777.0	777.1	777.6
155°	794.8	794.6	794.3	794.0	793.7	793.6	793.8	793.9	794.0	794.2	794.9
157.5°	809.8	809.8	809.8	809.8	809.8	809.7	809.5	809.4	809.3	809.1	810.0
160°	819.0	818.9	818.8	818.6	818.5	818.3	818.2	818.1	817.9	817.7	818.6
162.5°	827.7	827.4	827.0	826.6	826.2	826.0	825.8	825.7	825.6	825.4	826.4
165°	838.2	837.7	837.3	836.9	836.5	836.2	836.1	835.9	835.8	835.6	836.7
167.5°	846.4	845.8	845.2	844.7	844.1	843.8	843.8	843.8	843.8	843.8	844.9
170°	850.9	850.4	849.8	849.2	848.6	848.4	848.4	848.4	848.4	848.4	849.5
172.5°	853.9	853.3	852.6	851.9	851.3	851.0	851.1	851.2	851.3	851.4	852.6
175°	857.9	857.2	856.6	855.8	855.1	854.8	854.9	855.1	855.2	855.4	856.4
177.5°	858.9	858.4	857.9	857.3	856.7	856.5	856.6	856.7	856.8	856.9	857.9
180°	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9



TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	57.4	60.4	63.4	65.3	66.2	67.1	68.0	69.0
90°	65.1	68.6	72.0	74.3	75.4	76.5	77.6	78.8
92.5°	64.2	67.9	71.7	73.9	74.9	75.9	76.8	77.8
95°	64.6	68.2	71.8	74.0	74.8	75.7	76.6	77.4
97.5°	62.7	66.4	70.0	72.3	73.3	74.3	75.3	76.2
100°	61.2	64.8	68.4	70.7	71.7	72.6	73.6	74.6
102.5°	70.9	69.8	68.6	68.6	69.7	70.8	71.9	73.1
105°	122.7	100.0	77.3	66.4	67.4	68.5	69.5	70.6
107.5°	249.4	233.3	217.2	200.1	181.9	163.7	145.6	127.4
110°	306.8	304.4	301.8	290.8	271.3	251.7	232.1	212.5





TEST NUMBER: P331886-930

CATALOG NUMBER: S123DIP-S340D805U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.5	348.7	350.9	350.3	346.7	343.2	339.7	336.1
115°	392.9	396.3	399.7	402.1	403.3	404.6	405.9	407.1
117.5°	434.5	437.7	440.8	442.7	443.5	444.3	445.1	445.8
120°	461.9	465.0	468.1	469.9	470.5	471.1	471.7	472.2
122.5°	488.6	491.3	494.0	495.6	496.4	497.1	497.7	498.5
125°	526.2	528.2	530.3	531.7	532.6	533.5	534.3	535.2
127.5°	563.8	566.0	568.1	569.2	569.6	569.9	570.1	570.5
130°	586.4	588.6	590.7	591.9	592.2	592.3	592.6	592.8
132.5°	607.6	609.8	611.9	613.0	613.2	613.3	613.5	613.7
135°	640.1	642.0	644.0	645.0	645.0	645.0	645.0	645.0
137.5°	668.9	670.9	672.9	674.0	674.2	674.3	674.4	674.6
140°	687.2	689.0	690.9	691.9	692.0	692.1	692.3	692.4
142.5°	704.3	706.0	707.5	708.3	708.3	708.4	708.4	708.4
145°	729.2	730.2	731.1	731.7	732.1	732.5	732.8	733.1
147.5°	751.5	752.0	752.5	752.6	752.3	752.0	751.5	751.2
150°	765.4	765.7	766.0	766.1	765.7	765.5	765.2	765.0
152.5°	778.1	778.6	779.2	779.1	778.4	777.9	777.2	776.7
155°	795.7	796.3	797.0	797.0	796.1	795.2	794.4	793.5
157.5°	810.8	811.6	812.5	812.4	811.3	810.2	809.1	808.0
160°	819.5	820.4	821.2	821.1	820.1	819.1	818.2	817.2
162.5°	827.4	828.3	829.2	829.3	828.4	827.5	826.7	825.8
165°	837.9	839.0	840.2	840.2	839.3	838.2	837.2	836.3
167.5°	846.0	847.2	848.3	848.3	847.2	846.0	844.9	843.8
170°	850.6	851.7	852.9	852.9	851.7	850.6	849.5	848.4
172.5°	853.7	854.8	856.0	855.9	854.7	853.5	852.2	850.9
175°	857.4	858.3	859.3	859.2	858.2	857.0	855.9	854.8
177.5°	858.8	859.7	860.5	860.5	859.3	858.2	857.0	855.9
180°	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9

(END OF REPORT)