

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: P331254-927

Luminaire Tested: **SA2XXDIP-C290D530U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

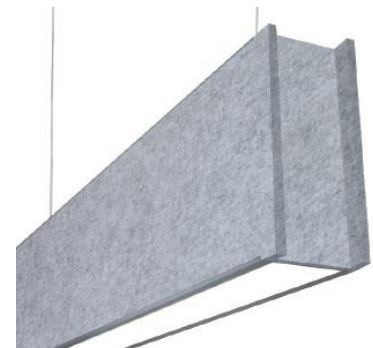
Test Information

Test Method: LM-79-08
Report Number: P331254-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2584.2 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

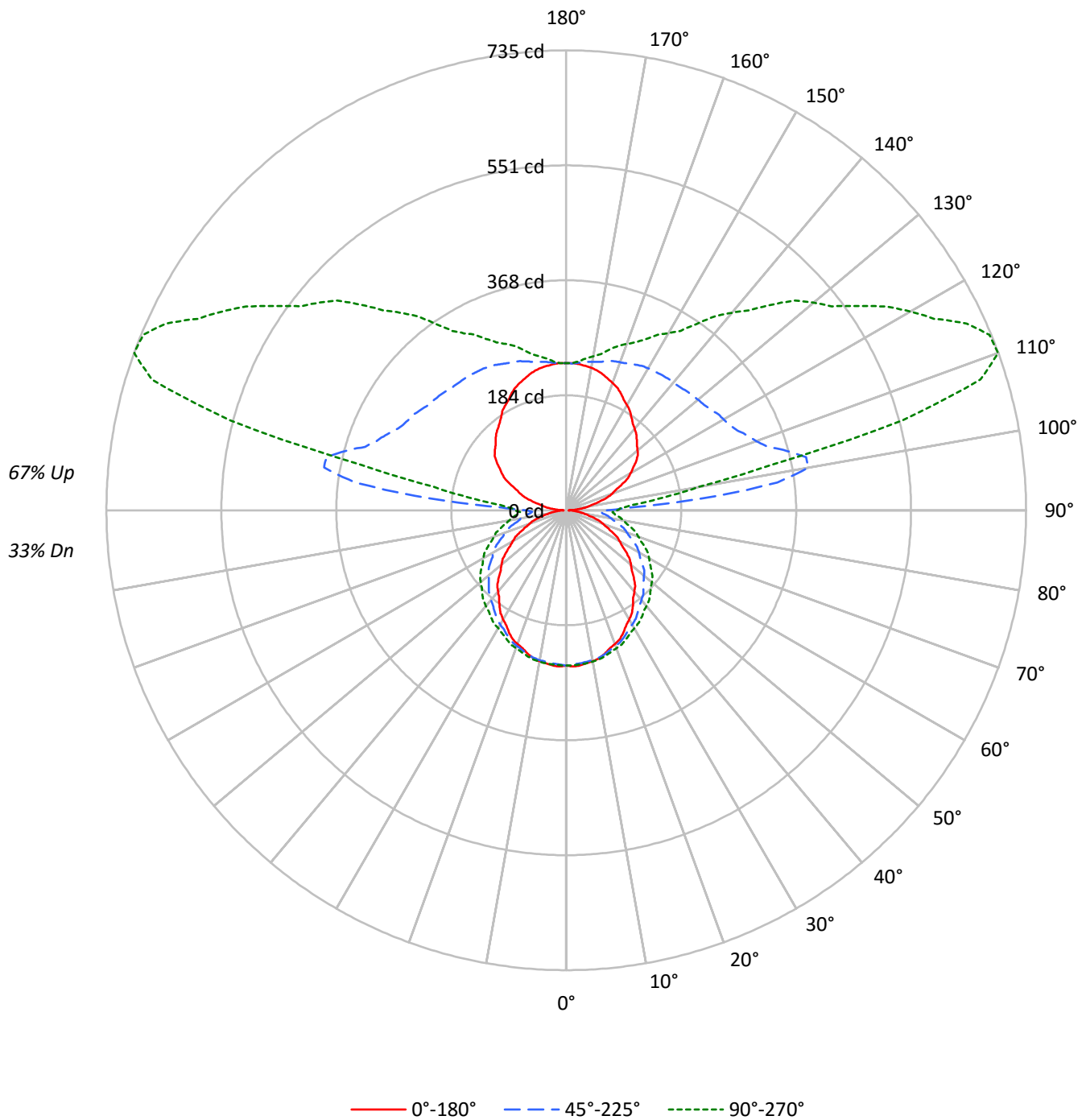
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																				
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33		
1	93	88	84	80	83	79	76	73	63	61	58	48	46	45	34	33	32	25		
2	84	76	70	65	75	69	63	59	55	51	47	41	39	37	29	28	26	21		
3	76	67	59	53	68	60	54	49	48	43	39	36	33	30	26	24	22	17		
4	70	59	51	45	62	53	46	41	42	37	33	32	29	26	23	20	18	14		
5	64	52	44	38	57	47	40	35	38	32	28	29	25	22	20	18	16	12		
6	59	47	38	33	52	42	35	30	34	28	24	26	22	19	18	16	14	11		
7	54	42	34	28	48	38	31	26	30	25	21	23	20	17	17	14	12	9		
8	50	38	30	25	45	34	28	23	28	22	19	21	17	15	15	13	11	8		
9	47	34	27	22	42	31	25	20	25	20	17	19	16	13	14	12	10	7		
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163

TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	0.9
10°-20°	67.5	2.6
20°-30°	102.2	4.0
30°-40°	124.5	4.8
40°-50°	134.0	5.2
50°-60°	130.1	5.0
60°-70°	113.6	4.4
70°-80°	87.5	3.4
80°-90°	60.8	2.4
90°-100°	134.4	5.2
100°-110°	348.3	13.5
110°-120°	358.1	13.9
120°-130°	289.6	11.2
130°-140°	228.4	8.8
140°-150°	170.0	6.6
150°-160°	118.9	4.6
160°-170°	70.0	2.7
170°-180°	22.8	0.9
0°-30°	193.2	7.5
0°-40°	317.8	12.3
0°-60°	581.9	22.5
0°-90°	843.7	32.6
90°-120°	840.8	32.5
90°-150°	1528.8	59.2
90°-180°	1740.0	67.3
0°-180°	2584.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	4	31	63	76	81	3
95°	19	59	218	121	111	19
105°	57	96	366	641	557	61
115°	98	129	302	610	706	98
125°	136	162	282	490	569	121
135°	159	190	270	405	465	123
145°	182	209	265	331	364	114
155°	206	223	257	291	302	95
165°	225	232	246	261	265	63
175°	234	235	237	240	239	22
180°	235	235	235	235	235	

TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.1	12.2	17.3	22.3	27.2	32.4	38.0	43.7	49.4	54.6	57.8
90°	4.0	10.1	16.5	22.0	27.6	33.8	41.2	49.4	57.3	62.9	65.6
92.5°	8.8	15.6	23.1	29.5	36.8	45.7	60.8	80.2	97.9	103.6	97.7
95°	18.7	24.2	32.6	40.3	51.3	66.5	92.1	136.2	193.4	218.5	199.4
97.5°	28.3	34.1	42.2	51.7	63.3	79.6	110.3	169.7	261.3	340.6	358.4
100°	37.3	41.6	48.6	58.9	70.8	87.2	115.6	175.2	277.3	392.9	460.9
102.5°	45.3	49.0	55.8	65.8	77.8	94.0	120.5	173.8	268.5	392.7	497.9
105°	56.9	61.1	66.5	75.7	87.9	103.8	129.1	173.5	252.2	365.8	488.7
107.5°	69.9	73.1	78.1	86.2	97.9	113.5	138.2	177.1	242.7	337.1	445.9
110°	78.3	81.7	86.0	93.4	104.5	120.4	144.2	180.6	239.6	323.1	419.1

TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	86.2	89.4	93.8	100.6	111.1	127.1	150.0	184.4	238.2	313.1	399.8
115°	98.5	101.7	105.3	111.6	121.5	135.9	159.0	190.1	237.6	301.7	375.5
117.5°	111.1	113.4	116.7	122.1	131.3	145.9	167.2	196.4	238.1	294.5	358.9
120°	119.0	121.1	124.1	128.6	137.9	152.3	173.1	200.7	238.7	290.3	349.8
122.5°	126.6	128.2	131.0	135.5	144.7	159.3	178.8	204.5	239.7	287.1	341.9
125°	136.3	137.6	140.3	145.8	154.8	168.7	187.5	210.4	241.0	281.5	330.2
127.5°	144.2	145.9	149.6	155.5	164.1	178.2	196.0	216.3	242.8	277.3	319.2
130°	148.9	150.6	155.0	161.3	170.2	183.7	201.2	220.1	244.3	274.9	312.0
132.5°	153.2	155.3	160.1	166.8	176.0	189.3	205.7	223.8	245.9	272.8	305.9
135°	159.4	161.2	166.6	173.4	183.8	196.9	212.1	228.7	247.6	270.1	297.5
137.5°	165.6	167.7	173.1	180.3	190.6	202.5	217.1	232.2	249.0	267.8	291.0
140°	170.2	172.0	177.3	184.4	194.3	206.1	219.8	233.9	249.5	266.3	287.1
142.5°	174.9	176.3	181.3	188.4	197.9	208.9	222.1	235.8	250.1	265.8	283.7
145°	181.6	183.4	187.9	194.7	203.7	213.7	225.9	238.5	251.2	264.7	279.6
147.5°	189.2	190.5	194.9	201.1	208.7	217.5	228.9	240.1	251.5	263.1	275.8
150°	194.2	195.6	199.2	205.1	211.9	220.0	230.4	240.8	251.2	262.1	272.9
152.5°	199.3	199.9	203.6	208.7	215.2	222.5	231.9	241.1	250.5	260.2	270.4
155°	206.4	206.9	209.6	214.6	219.6	226.3	234.0	241.7	249.4	257.1	265.6
157.5°	212.4	212.9	215.1	219.4	223.4	229.0	235.5	241.7	247.3	253.8	261.2
160°	216.4	216.8	218.6	222.3	225.9	230.8	236.3	241.7	246.2	251.7	257.9
162.5°	220.4	220.1	221.9	224.8	228.1	232.0	236.6	241.3	245.1	249.9	255.1
165°	225.0	224.5	225.5	228.1	230.4	233.1	237.2	240.3	243.0	246.2	250.3
167.5°	228.8	228.2	229.0	230.8	232.4	234.1	237.1	239.7	241.0	243.0	245.6
170°	231.3	230.4	230.8	232.2	233.1	234.5	236.7	239.0	239.9	241.2	243.0
172.5°	232.7	232.2	232.0	233.3	233.9	234.8	236.4	237.9	238.4	239.1	240.5
175°	234.5	234.0	233.5	234.5	234.5	234.9	235.8	236.7	236.3	236.7	237.2
177.5°	235.3	234.6	234.2	234.9	234.9	234.9	235.3	236.0	235.3	234.9	235.3
180°	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9

TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	60.9	64.0	67.5	69.7	70.7	71.8	72.8	73.8
90°	68.4	70.7	74.8	77.3	78.3	79.2	80.2	81.1
92.5°	90.5	88.1	87.5	86.7	87.3	86.8	88.1	88.3
95°	165.8	141.3	125.4	117.4	112.5	109.9	109.5	110.9
97.5°	320.4	273.1	227.2	196.5	175.9	165.7	160.1	157.2
100°	454.4	401.3	342.4	289.6	253.0	234.5	222.3	215.0
102.5°	541.5	531.7	489.4	433.3	393.5	361.2	345.7	335.6
105°	585.4	639.3	648.0	634.9	607.8	580.7	562.1	556.7
107.5°	548.3	627.9	677.6	701.2	705.6	705.0	702.0	694.4
110°	517.1	600.5	660.8	699.7	719.9	729.4	734.4	734.7

TEST NUMBER: P331254-927

CATALOG NUMBER: SA2XXDIP-C290D530U927-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	488.3	568.5	632.8	677.0	704.9	720.2	728.7	732.1
115°	452.4	524.3	586.0	634.1	667.1	688.7	701.4	706.3
117.5°	424.6	488.1	544.2	589.4	622.9	645.6	658.9	663.1
120°	410.4	468.7	518.7	561.4	593.9	616.1	630.0	635.4
122.5°	398.8	452.3	499.8	538.4	567.5	589.1	601.5	606.1
125°	381.6	430.3	472.2	507.6	534.4	552.3	564.4	568.7
127.5°	364.6	408.7	448.2	480.8	504.4	521.2	531.6	535.2
130°	353.7	394.5	432.1	463.2	486.0	502.0	511.7	515.9
132.5°	343.3	381.0	415.7	445.0	467.4	483.4	492.3	496.2
135°	328.5	360.0	391.5	418.0	438.1	453.6	462.4	464.8
137.5°	316.3	342.8	367.9	390.9	409.2	422.6	430.2	433.6
140°	308.7	331.6	353.7	374.5	389.4	401.6	408.8	412.1
142.5°	302.5	322.0	340.9	358.2	372.4	383.5	389.9	390.9
145°	294.1	309.6	324.0	337.5	348.8	356.9	361.8	363.5
147.5°	287.8	299.6	310.6	320.4	329.5	335.8	339.1	340.1
150°	283.7	293.7	303.2	311.2	318.1	323.4	326.1	326.6
152.5°	279.7	289.0	297.0	304.0	309.3	314.1	316.1	316.2
155°	274.3	281.5	288.2	293.2	298.2	301.3	303.2	302.2
157.5°	267.8	273.9	279.6	283.4	286.9	289.6	290.4	290.4
160°	263.8	268.8	273.8	276.9	280.1	282.3	282.8	282.8
162.5°	259.8	264.1	268.4	270.8	273.9	275.5	275.9	275.6
165°	253.9	257.1	260.2	262.1	263.8	265.6	265.6	265.2
167.5°	248.2	250.6	252.8	254.4	255.2	256.3	256.2	255.6
170°	245.3	246.7	248.5	249.4	249.9	251.2	250.7	249.9
172.5°	242.1	243.0	244.5	245.0	245.5	246.1	245.7	245.1
175°	238.5	239.0	239.5	239.9	239.9	240.3	239.9	239.0
177.5°	236.0	236.0	236.4	236.4	236.4	236.4	236.0	235.3
180°	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9

(END OF REPORT)