

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: P331252-935

Luminaire Tested: **SA2XXDIP-C290D530U935-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331252-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D530U935-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

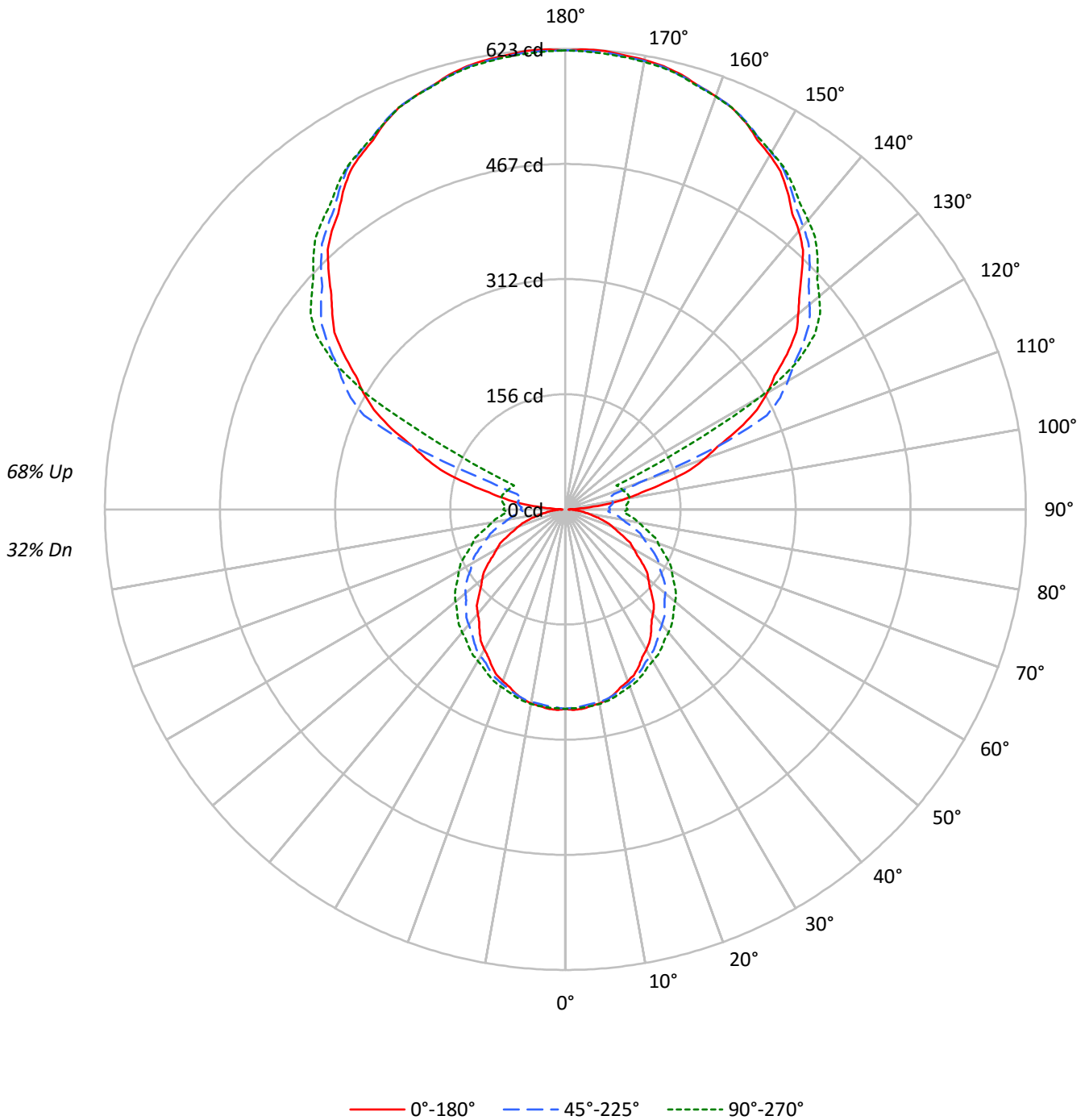
Lumens per Lamp: N/A
Luminaire Lumens: 2850.9 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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: P331252-935
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Luminous Intensity Polar Plot





TEST NUMBER: P331252-935

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4358	4358	4358
5°	4379	4195	4179
10°	4352	4070	4026
15°	4290	3939	3863
20°	4215	3798	3707
25°	4141	3663	3565
30°	4034	3524	3423
35°	3928	3389	3323
40°	3818	3275	3223
45°	3709	3172	3137
50°	3596	3079	3053
55°	3474	2979	2968
60°	3329	2876	2878
65°	3174	2756	2769
70°	3001	2623	2653
75°	2784	2499	2544
80°	2445	2366	2436
85°	2110	2255	2350



TEST NUMBER: P331252-935

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.6	0.9
10°-20°	73.3	2.6
20°-30°	111.1	3.9
30°-40°	135.3	4.7
40°-50°	145.6	5.1
50°-60°	141.4	5.0
60°-70°	123.5	4.3
70°-80°	95.1	3.3
80°-90°	65.3	2.3
90°-100°	64.7	2.3
100°-110°	108.1	3.8
110°-120°	224.2	7.9
120°-130°	347.0	12.2
130°-140°	361.4	12.7
140°-150°	332.2	11.7
150°-160°	266.4	9.3
160°-170°	171.7	6.0
170°-180°	59.1	2.1
0°-30°	210.0	7.4
0°-40°	345.4	12.1
0°-60°	632.4	22.2
0°-90°	916.2	32.1
90°-120°	397.0	13.9
90°-150°	1437.6	50.4
90°-180°	1935.0	67.9
0°-180°	2850.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	270	270	270	270	270	
5°	271	269	267	269	269	26
15°	258	259	259	262	262	73
25°	235	237	241	245	247	108
35°	202	209	216	225	228	126
45°	166	177	190	202	206	128
55°	127	142	162	175	181	114
65°	87	106	129	145	150	86
75°	48	70	95	111	117	51
85°	14	38	63	79	85	15
90°	4	32	61	78	84	4
95°	32	37	62	79	84	38
105°	138	156	61	79	86	148
115°	260	273	301	114	76	256
125°	366	373	393	406	412	326
135°	452	460	468	480	482	349
145°	524	524	532	537	537	328
155°	577	574	579	581	578	266
165°	608	606	607	610	607	172
175°	622	619	620	623	619	59
180°	621	621	621	621	621	



TEST NUMBER: P331252-935

CATALOG NUMBER: SA2XXDIP-C290D530U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	271.5	271.2	271.0	270.8	270.6	270.3	269.8	269.3	268.8	268.3	268.6
5°	270.7	270.4	270.2	269.9	269.6	269.2	268.7	268.2	267.7	267.2	267.7
7.5°	268.2	268.0	267.9	267.7	267.5	267.3	266.8	266.5	266.0	265.6	266.3
10°	266.4	266.2	266.0	265.9	265.7	265.4	265.2	264.9	264.7	264.4	265.1
12.5°	263.2	263.3	263.3	263.4	263.4	263.3	263.1	262.9	262.7	262.5	263.2
15°	258.1	258.3	258.5	258.6	258.8	258.9	258.9	258.9	258.9	258.9	259.7
17.5°	251.6	251.9	252.3	252.7	253.0	253.4	253.7	253.9	254.2	254.5	255.3
20°	247.2	247.6	248.1	248.5	248.9	249.3	249.7	250.0	250.4	250.7	251.7
22.5°	242.5	243.0	243.5	244.0	244.5	245.0	245.5	246.0	246.5	246.9	247.9
25°	234.7	235.3	235.9	236.5	237.1	237.8	238.6	239.4	240.1	240.9	241.9
27.5°	225.3	226.3	227.3	228.3	229.3	230.2	231.1	232.0	233.0	233.9	235.2
30°	219.0	220.2	221.3	222.4	223.5	224.7	225.8	227.0	228.1	229.2	230.6
32.5°	212.2	213.4	214.6	215.9	217.2	218.5	219.9	221.2	222.6	223.9	225.5
35°	202.2	203.7	205.2	206.6	208.1	209.7	211.4	213.0	214.6	216.3	218.2
37.5°	191.4	193.1	194.8	196.6	198.2	200.2	202.3	204.4	206.6	208.7	210.9
40°	184.3	186.1	188.0	189.9	191.8	194.0	196.3	198.7	201.0	203.4	205.6
42.5°	177.4	179.3	181.2	183.0	185.0	187.3	190.0	192.7	195.4	198.0	200.5
45°	165.8	168.2	170.6	172.9	175.2	177.9	181.0	184.0	187.0	190.1	192.8
47.5°	154.5	157.0	159.6	162.1	164.7	167.8	171.3	174.9	178.5	182.0	184.9
50°	146.7	149.4	152.1	154.7	157.5	160.7	164.7	168.6	172.5	176.4	179.3
52.5°	139.1	142.0	144.8	147.7	150.5	153.9	158.1	162.2	166.3	170.5	173.5
55°	127.1	130.3	133.4	136.5	139.7	143.4	148.0	152.5	157.0	161.5	164.7
57.5°	115.2	118.7	122.3	125.8	129.3	133.4	138.0	142.6	147.2	151.9	155.2
60°	106.8	110.6	114.3	118.0	121.7	126.1	131.0	136.0	140.9	145.9	149.2
62.5°	99.3	103.1	107.0	110.9	114.8	119.2	124.2	129.1	134.1	139.1	142.5
65°	86.8	91.1	95.3	99.6	103.8	108.6	113.7	118.8	124.0	129.1	132.7
67.5°	75.4	79.9	84.3	88.8	93.2	98.1	103.3	108.6	113.8	119.1	122.7
70°	67.2	71.8	76.3	80.8	85.3	90.3	95.7	101.1	106.5	111.8	115.6
72.5°	59.8	64.4	69.1	73.7	78.4	83.4	88.9	94.4	99.9	105.3	109.0
75°	48.1	53.0	57.9	62.7	67.6	72.8	78.4	83.9	89.5	95.1	98.8
77.5°	36.9	41.9	47.0	52.1	57.3	62.6	68.3	73.9	79.6	85.2	88.9
80°	29.4	34.6	40.0	45.2	50.5	56.1	61.6	67.3	72.9	78.6	82.2
82.5°	23.1	28.3	33.6	38.7	44.0	49.5	55.2	61.0	66.6	72.3	76.0
85°	14.1	19.5	24.9	30.2	35.6	41.1	46.7	52.3	57.8	63.4	67.0
87.5°	7.7	13.2	18.6	23.9	29.4	35.0	40.6	46.3	52.1	57.8	61.5
90°	4.4	10.5	16.6	22.8	28.9	35.1	41.5	47.9	54.2	60.6	64.6
92.5°	12.7	17.3	21.9	26.4	31.1	36.2	42.0	47.7	53.5	59.2	62.9
95°	32.4	33.1	33.9	34.7	35.5	38.8	44.8	50.7	56.6	62.5	66.3
97.5°	60.7	55.0	49.4	43.7	38.1	38.6	45.2	51.8	58.5	65.1	68.7
100°	82.3	71.8	61.3	50.9	40.4	38.5	45.0	51.6	58.1	64.7	68.7
102.5°	105.6	105.7	105.7	105.8	105.8	101.2	91.7	82.2	72.8	63.3	67.4
105°	138.5	144.0	149.6	155.1	160.6	152.0	129.2	106.5	83.8	61.0	65.2
107.5°	176.5	180.9	185.4	189.8	194.2	182.3	153.9	125.5	97.2	68.8	70.6
110°	200.6	204.5	208.3	212.2	215.9	205.6	181.0	156.4	131.8	107.2	100.0



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CATALOG NUMBER: SA2XXDIP-C290D530U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	223.6	227.0	230.2	233.6	236.9	237.0	233.9	230.8	227.7	224.7	191.1
115°	259.9	262.6	265.3	267.9	270.5	275.1	281.5	287.9	294.3	300.7	257.1
117.5°	292.0	294.5	297.0	299.5	302.0	306.0	311.3	316.7	322.0	327.4	318.7
120°	315.7	317.5	319.4	321.2	323.0	326.7	331.9	337.2	342.5	347.8	351.4
122.5°	335.9	337.5	339.2	341.0	342.7	346.2	351.4	356.6	361.9	367.0	370.1
125°	366.1	367.4	368.7	370.0	371.3	374.3	378.9	383.7	388.3	393.0	396.1
127.5°	393.8	395.2	396.6	397.9	399.2	401.7	405.4	409.1	412.8	416.4	419.6
130°	411.5	413.0	414.5	416.0	417.5	419.7	422.7	425.6	428.5	431.4	434.6
132.5°	429.5	430.7	432.0	433.3	434.5	436.4	438.9	441.4	443.9	446.4	449.4
135°	452.5	454.0	455.6	457.2	458.8	460.5	462.3	464.0	465.8	467.5	470.4
137.5°	476.0	477.2	478.3	479.3	480.4	481.7	483.1	484.5	485.9	487.3	489.9
140°	491.5	492.2	492.9	493.6	494.4	495.3	496.6	497.9	499.1	500.4	502.7
142.5°	504.5	505.1	505.8	506.4	507.0	507.9	509.2	510.5	511.8	513.1	515.1
145°	524.3	524.3	524.2	524.1	524.0	524.8	526.5	528.1	529.9	531.6	532.8
147.5°	542.1	541.7	541.3	541.0	540.5	541.2	542.9	544.6	546.2	547.9	548.5
150°	553.5	552.8	552.2	551.5	550.8	551.2	552.8	554.4	556.0	557.6	558.2
152.5°	563.3	562.5	561.7	560.9	560.2	560.5	562.1	563.6	565.1	566.6	567.2
155°	577.4	576.5	575.6	574.7	573.8	573.9	575.1	576.4	577.6	578.8	579.4
157.5°	588.4	587.7	586.9	586.2	585.4	585.5	586.3	587.1	588.0	588.8	589.4
160°	595.0	594.3	593.7	593.1	592.5	592.5	593.1	593.7	594.3	595.0	595.6
162.5°	600.6	600.0	599.4	598.8	598.3	598.2	598.7	599.3	599.8	600.3	601.0
165°	608.4	607.8	607.2	606.6	606.0	605.9	606.1	606.4	606.7	607.0	607.8
167.5°	614.2	613.5	612.9	612.3	611.7	611.6	611.8	612.2	612.4	612.7	613.4
170°	617.3	616.8	616.2	615.6	615.0	614.8	615.0	615.2	615.4	615.6	616.3
172.5°	619.6	619.0	618.4	617.8	617.2	616.9	617.2	617.3	617.5	617.8	618.5
175°	622.3	621.6	621.0	620.3	619.5	619.3	619.5	619.7	619.8	620.1	620.8
177.5°	622.8	622.2	621.6	621.1	620.5	620.3	620.4	620.4	620.5	620.6	621.2
180°	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0



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CATALOG NUMBER: SA2XXDIP-C290D530U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	269.0	269.3	269.7	269.8	269.7	269.5	269.4	269.2
5°	268.2	268.7	269.2	269.4	269.3	269.2	269.1	269.1
7.5°	266.9	267.5	268.2	268.5	268.4	268.3	268.2	268.1
10°	265.8	266.5	267.2	267.5	267.4	267.3	267.3	267.2
12.5°	263.9	264.6	265.3	265.6	265.5	265.4	265.4	265.3
15°	260.5	261.3	262.1	262.4	262.3	262.3	262.2	262.1
17.5°	256.1	256.9	257.7	258.1	258.1	258.1	258.1	258.1
20°	252.6	253.6	254.5	255.0	255.0	255.0	255.0	255.0
22.5°	248.9	249.9	250.8	251.3	251.5	251.6	251.8	251.9
25°	243.1	244.1	245.1	245.7	246.0	246.2	246.5	246.8
27.5°	236.5	237.9	239.2	240.0	240.1	240.3	240.5	240.7
30°	232.0	233.4	234.8	235.6	235.8	236.1	236.3	236.6
32.5°	227.0	228.7	230.3	231.4	231.8	232.3	232.7	233.2
35°	220.2	222.1	223.9	225.2	225.8	226.4	227.0	227.6
37.5°	212.9	215.1	217.2	218.6	219.2	219.9	220.5	221.1
40°	207.9	210.2	212.4	214.0	214.7	215.5	216.3	217.1
42.5°	203.0	205.4	207.9	209.6	210.3	211.1	211.9	212.7
45°	195.4	198.2	200.9	202.7	203.5	204.4	205.3	206.1
47.5°	187.7	190.5	193.3	195.2	196.1	197.1	198.0	199.0
50°	182.3	185.3	188.2	190.2	191.1	192.1	193.0	194.0
52.5°	176.5	179.5	182.5	184.6	185.6	186.7	187.7	188.6
55°	167.8	170.9	174.1	176.2	177.3	178.5	179.6	180.7
57.5°	158.6	162.0	165.3	167.6	168.8	169.9	171.0	172.2
60°	152.5	155.8	159.1	161.4	162.6	163.8	165.1	166.3
62.5°	146.0	149.6	153.1	155.4	156.5	157.6	158.9	160.0
65°	136.2	139.7	143.4	145.7	146.8	147.9	149.0	150.2
67.5°	126.2	129.8	133.5	135.9	137.0	138.2	139.4	140.6
70°	119.3	123.0	126.8	129.2	130.3	131.3	132.3	133.4
72.5°	112.6	116.3	119.9	122.4	123.6	124.9	126.2	127.4
75°	102.5	106.2	110.0	112.4	113.6	114.7	115.8	116.9
77.5°	92.6	96.3	100.0	102.5	103.8	105.0	106.2	107.4
80°	85.9	89.5	93.2	95.7	96.9	98.1	99.3	100.5
82.5°	79.6	83.3	87.0	89.4	90.5	91.7	92.8	93.9
85°	70.7	74.3	78.0	80.4	81.6	82.8	84.0	85.2
87.5°	65.1	68.7	72.4	74.8	75.9	77.1	78.3	79.4
90°	68.5	72.6	76.5	79.1	80.3	81.6	82.8	84.1
92.5°	66.6	70.3	73.9	76.3	77.5	78.6	79.8	80.9
95°	70.1	73.9	77.7	80.1	81.0	82.0	82.9	83.9
97.5°	72.3	75.9	79.6	81.9	83.1	84.2	85.3	86.5
100°	72.8	76.8	80.8	83.3	84.6	85.7	86.9	88.0
102.5°	71.6	75.8	80.0	82.7	83.9	85.2	86.4	87.6
105°	69.3	73.4	77.6	80.3	81.7	83.1	84.5	85.8
107.5°	72.4	74.2	76.0	77.6	79.0	80.3	81.6	83.0
110°	92.8	85.6	78.4	75.4	76.8	78.2	79.5	80.8



TEST NUMBER: P331252-935

CATALOG NUMBER: SA2XXDIP-C290D530U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.4	123.7	90.1	74.0	75.3	76.5	77.7	79.0
115°	213.4	169.9	126.2	101.3	95.1	88.9	82.6	76.4
117.5°	310.1	301.5	292.9	277.2	254.5	231.8	209.0	186.2
120°	355.0	358.6	362.3	357.8	345.3	332.8	320.3	307.7
122.5°	373.2	376.3	379.4	380.0	378.2	376.4	374.6	372.8
125°	399.1	402.1	405.2	407.3	408.3	409.4	410.4	411.6
127.5°	422.8	425.9	429.1	431.1	432.0	432.7	433.6	434.4
130°	437.8	441.0	444.2	446.1	446.7	447.2	447.8	448.4
132.5°	452.4	455.3	458.2	460.0	460.6	461.2	461.8	462.4
135°	473.2	476.0	478.9	480.5	481.0	481.5	482.0	482.5
137.5°	492.5	495.1	497.7	499.0	499.3	499.6	499.8	500.1
140°	505.0	507.3	509.6	510.7	510.7	510.8	510.8	510.8
142.5°	516.9	518.9	520.8	521.8	521.8	521.7	521.6	521.6
145°	534.0	535.2	536.4	537.0	536.9	536.9	536.8	536.7
147.5°	549.1	549.7	550.3	550.4	550.3	550.0	549.8	549.6
150°	558.8	559.4	560.0	560.1	559.6	559.0	558.5	558.1
152.5°	567.8	568.4	569.0	568.9	568.3	567.7	567.0	566.4
155°	580.0	580.6	581.2	581.0	580.2	579.5	578.7	577.8
157.5°	590.1	590.8	591.5	591.5	590.6	589.9	589.1	588.3
160°	596.1	596.7	597.3	597.3	596.6	595.9	595.1	594.4
162.5°	601.7	602.4	603.0	603.0	602.1	601.2	600.4	599.5
165°	608.5	609.2	609.8	609.8	609.2	608.5	607.8	607.0
167.5°	614.1	614.8	615.5	615.4	614.5	613.6	612.7	611.8
170°	617.0	617.7	618.4	618.3	617.3	616.5	615.6	614.7
172.5°	619.1	619.8	620.5	620.4	619.6	618.6	617.8	616.8
175°	621.5	622.2	622.8	622.8	621.7	620.7	619.7	618.7
177.5°	621.7	622.3	622.8	622.8	622.1	621.3	620.6	619.9
180°	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0

(END OF REPORT)