

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: P331244

Luminaire Tested: **SA2XXDIP-C290D330U835-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331244
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2368.2 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

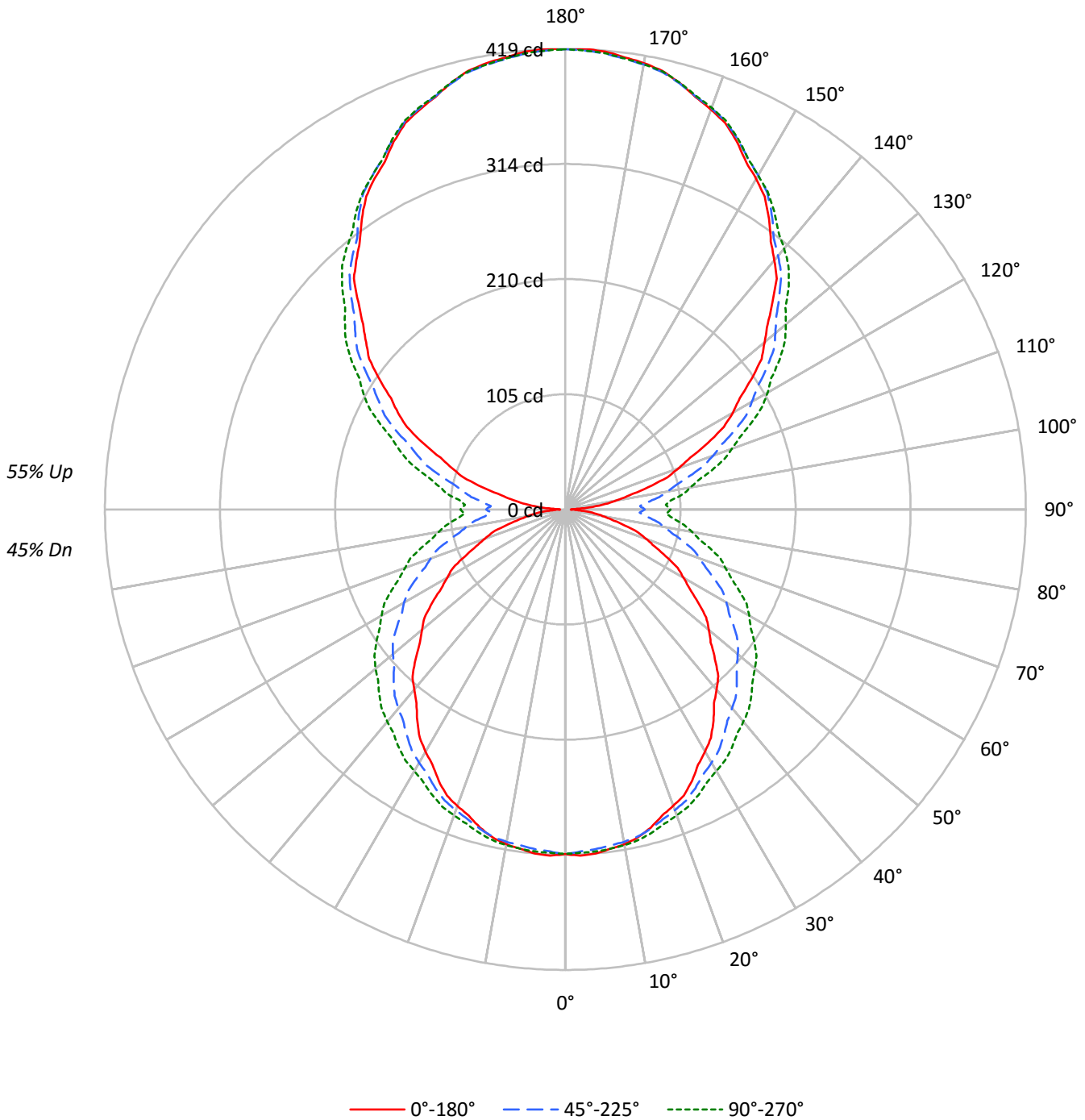
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	95	90	86	82	87	83	79	76	69	66	63	55	53	52	43	42	41	35
2	86	78	72	66	78	72	66	61	59	55	51	48	45	42	37	35	33	28
3	78	68	60	54	71	63	56	50	52	47	42	42	38	35	33	30	28	23
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	59	49	41	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	26	30	25	22	23	20	18	15
7	55	43	35	29	50	39	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	19	16	14	11
9	48	35	28	23	44	33	26	21	27	22	18	23	18	15	18	15	12	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	1.3
10°-20°	85.2	3.6
20°-30°	129.1	5.5
30°-40°	157.2	6.6
40°-50°	169.1	7.1
50°-60°	164.2	6.9
60°-70°	143.4	6.1
70°-80°	110.4	4.7
80°-90°	75.8	3.2
90°-100°	77.6	3.3
100°-110°	119.7	5.1
110°-120°	165.5	7.0
120°-130°	199.0	8.4
130°-140°	213.6	9.0
140°-150°	204.8	8.6
150°-160°	171.0	7.2
160°-170°	113.4	4.8
170°-180°	39.6	1.7
0°-30°	243.9	10.3
0°-40°	401.1	16.9
0°-60°	734.5	31.0
0°-90°	1064.1	44.9
90°-120°	362.7	15.3
90°-150°	980.1	41.4
90°-180°	1304.0	55.1
0°-180°	2368.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	5	36	72	89	96	4
95°	22	47	75	91	97	24
105°	78	93	117	133	138	83
115°	143	151	170	183	187	141
125°	206	210	223	234	238	185
135°	266	270	276	284	287	206
145°	323	325	328	330	331	202
155°	369	370	371	373	372	170
165°	402	401	401	404	402	113
175°	418	417	416	418	416	40
180°	419	419	419	419	419	



TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.0	15.2	21.4	27.6	33.8	40.3	47.1	53.9	60.7	67.5	71.6
90°	4.9	11.7	18.5	25.3	32.1	39.6	47.8	56.0	64.1	72.3	76.2
92.5°	10.5	16.6	22.8	28.9	35.0	41.4	48.0	54.7	61.3	67.9	71.9
95°	22.0	27.5	33.1	38.6	44.1	50.0	56.2	62.4	68.6	74.9	78.7
97.5°	36.7	41.7	46.6	51.5	56.4	61.9	68.0	74.1	80.2	86.4	90.1
100°	48.0	52.4	56.8	61.1	65.5	70.6	76.5	82.4	88.3	94.2	97.9
102.5°	59.6	63.5	67.4	71.3	75.2	80.1	85.9	91.6	97.4	103.2	106.9
105°	78.2	81.4	84.6	87.7	90.9	95.2	100.6	106.0	111.4	116.8	120.5
107.5°	97.5	100.2	102.9	105.6	108.3	112.1	117.1	122.2	127.2	132.2	135.7
110°	109.6	112.1	114.6	117.0	119.5	123.3	128.2	133.1	138.1	143.0	146.3



TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	123.1	125.3	127.5	129.6	131.8	135.2	139.9	144.5	149.1	153.8	156.8
115°	143.1	144.7	146.3	147.9	149.5	152.4	156.8	161.2	165.6	170.0	172.9
117.5°	162.6	164.0	165.3	166.7	168.0	170.6	174.3	178.1	181.9	185.6	188.4
120°	175.9	176.9	178.0	179.0	180.0	182.2	185.7	189.1	192.5	195.9	198.7
122.5°	188.0	189.0	189.9	190.8	191.7	193.8	197.2	200.6	203.9	207.3	209.8
125°	206.5	207.2	207.9	208.6	209.4	211.2	214.2	217.2	220.2	223.2	225.7
127.5°	225.0	225.8	226.6	227.4	228.1	229.7	232.0	234.3	236.7	239.0	241.2
130°	236.6	237.5	238.4	239.3	240.2	241.7	243.6	245.6	247.6	249.5	251.8
132.5°	249.6	250.3	251.0	251.8	252.5	253.7	255.4	257.0	258.7	260.4	262.3
135°	266.5	267.4	268.2	269.1	269.9	271.0	272.1	273.3	274.5	275.6	277.7
137.5°	284.8	285.5	286.2	286.8	287.5	288.2	288.9	289.5	290.1	290.8	292.6
140°	295.8	296.4	297.0	297.6	298.2	298.8	299.4	300.0	300.6	301.2	302.8
142.5°	307.1	307.7	308.3	308.9	309.5	310.0	310.3	310.6	310.9	311.2	312.6
145°	322.9	323.5	324.0	324.6	325.1	325.6	326.1	326.6	327.0	327.5	328.2
147.5°	337.4	338.1	338.7	339.4	340.0	340.5	340.8	341.2	341.5	341.8	342.0
150°	347.3	347.8	348.2	348.7	349.2	349.6	349.9	350.2	350.5	350.8	351.1
152.5°	356.1	356.5	357.0	357.5	357.9	358.4	358.7	359.1	359.5	359.9	360.2
155°	369.2	369.4	369.7	369.9	370.1	370.4	370.6	370.8	371.1	371.3	371.7
157.5°	380.4	380.6	380.7	380.9	381.1	381.2	381.4	381.5	381.6	381.8	382.3
160°	387.2	387.4	387.5	387.7	387.8	388.0	388.0	388.1	388.2	388.3	388.7
162.5°	393.4	393.5	393.5	393.5	393.6	393.6	393.7	393.8	393.9	393.9	394.5
165°	401.7	401.6	401.5	401.5	401.4	401.3	401.3	401.3	401.3	401.3	401.9
167.5°	408.6	408.4	408.2	407.9	407.7	407.6	407.5	407.5	407.5	407.5	408.0
170°	412.3	412.1	411.8	411.6	411.4	411.2	411.1	411.0	411.0	410.9	411.4
172.5°	414.8	414.6	414.4	414.1	413.9	413.7	413.7	413.6	413.5	413.4	414.0
175°	418.0	417.7	417.5	417.2	417.0	416.8	416.7	416.5	416.3	416.2	416.7
177.5°	419.2	419.0	418.8	418.7	418.5	418.3	418.2	418.1	417.9	417.8	418.2
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7



TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	75.7	79.8	83.9	86.6	87.9	89.2	90.5	91.8
90°	80.1	84.0	87.9	90.4	91.7	93.0	94.3	95.6
92.5°	75.9	79.9	83.9	86.5	87.7	88.9	90.2	91.4
95°	82.5	86.4	90.2	92.6	93.7	94.8	95.8	96.9
97.5°	93.8	97.6	101.3	103.7	104.9	106.1	107.3	108.4
100°	101.7	105.4	109.1	111.5	112.5	113.6	114.6	115.6
102.5°	110.7	114.4	118.1	120.5	121.5	122.5	123.6	124.6
105°	124.2	127.9	131.6	134.0	135.1	136.2	137.3	138.4
107.5°	139.1	142.6	146.0	148.1	148.9	149.6	150.4	151.1
110°	149.5	152.7	156.0	158.0	158.9	159.8	160.6	161.5



TEST NUMBER: P331244

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	159.9	162.9	165.9	167.9	168.9	169.8	170.7	171.7
115°	175.9	178.8	181.8	183.7	184.6	185.5	186.3	187.2
117.5°	191.2	194.0	196.8	198.6	199.4	200.2	201.0	201.8
120°	201.5	204.4	207.2	209.0	209.9	210.8	211.7	212.5
122.5°	212.4	214.9	217.5	219.2	219.9	220.7	221.5	222.3
125°	228.2	230.7	233.1	234.8	235.6	236.5	237.3	238.1
127.5°	243.4	245.7	247.9	249.3	249.9	250.6	251.2	251.9
130°	254.1	256.3	258.6	260.0	260.5	261.0	261.5	261.9
132.5°	264.3	266.3	268.3	269.6	270.2	270.7	271.3	271.8
135°	279.7	281.7	283.8	285.1	285.7	286.2	286.8	287.4
137.5°	294.4	296.2	298.0	299.1	299.4	299.8	300.2	300.5
140°	304.4	306.1	307.7	308.6	308.9	309.2	309.5	309.8
142.5°	313.9	315.3	316.6	317.4	317.6	317.9	318.1	318.3
145°	328.9	329.6	330.2	330.7	330.9	331.1	331.3	331.4
147.5°	342.3	342.5	342.8	342.9	342.8	342.8	342.7	342.7
150°	351.3	351.5	351.8	351.8	351.5	351.3	351.1	350.8
152.5°	360.5	360.8	361.1	361.1	360.8	360.5	360.2	359.9
155°	372.1	372.5	372.9	373.0	372.7	372.5	372.3	372.0
157.5°	382.8	383.4	383.9	384.0	383.6	383.2	382.9	382.5
160°	389.2	389.7	390.2	390.2	389.9	389.6	389.3	389.0
162.5°	395.0	395.5	396.1	396.1	395.8	395.4	395.0	394.6
165°	402.4	403.0	403.5	403.6	403.2	402.8	402.4	402.1
167.5°	408.6	409.1	409.7	409.8	409.4	408.9	408.5	408.1
170°	412.0	412.5	413.1	413.1	412.7	412.2	411.7	411.2
172.5°	414.5	415.1	415.6	415.7	415.2	414.7	414.3	413.8
175°	417.3	417.8	418.4	418.4	418.0	417.5	417.0	416.5
177.5°	418.6	418.9	419.3	419.3	418.9	418.6	418.2	417.8
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7

(END OF REPORT)