

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: P331244-927

Luminaire Tested: **SA2XXDIP-C290D330U927-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331244-927
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-C290D330U927-4F0-1E-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: 1876.0 lumens
Efficiency: N/A
Efficacy: 92.4 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: General Diffuse

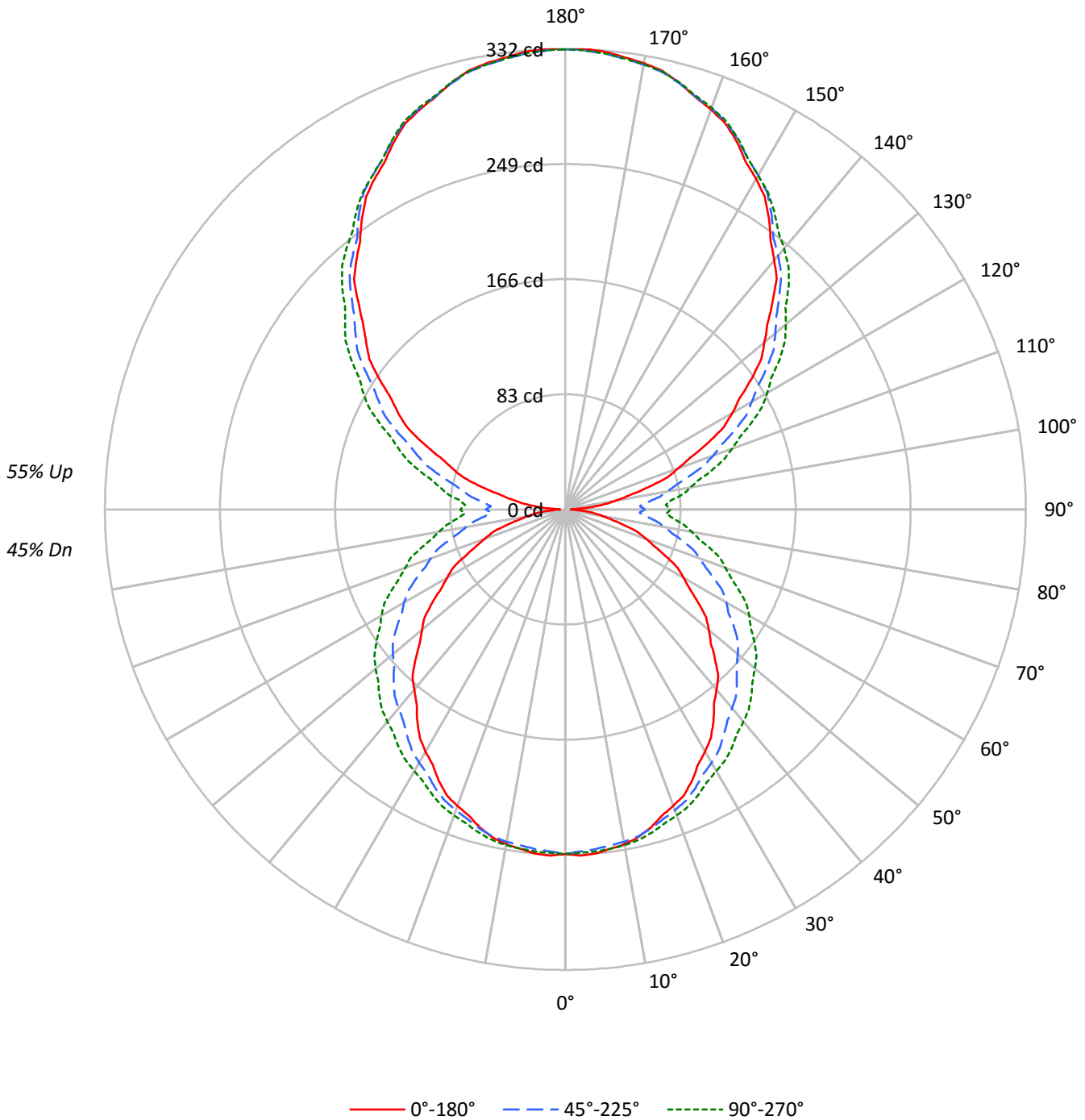
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-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	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°	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: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	1.3
10°-20°	67.5	3.6
20°-30°	102.2	5.5
30°-40°	124.5	6.6
40°-50°	134.0	7.1
50°-60°	130.1	6.9
60°-70°	113.6	6.1
70°-80°	87.5	4.7
80°-90°	60.0	3.2
90°-100°	61.4	3.3
100°-110°	94.8	5.1
110°-120°	131.1	7.0
120°-130°	157.6	8.4
130°-140°	169.2	9.0
140°-150°	162.3	8.6
150°-160°	135.4	7.2
160°-170°	89.8	4.8
170°-180°	31.4	1.7
0°-30°	193.2	10.3
0°-40°	317.8	16.9
0°-60°	581.9	31.0
0°-90°	842.9	44.9
90°-120°	287.3	15.3
90°-150°	776.4	41.4
90°-180°	1033.0	55.1
0°-180°	1876.0	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	28	57	71	76	3
95°	17	37	59	72	77	19
105°	62	74	92	105	110	66
115°	113	120	135	145	148	112
125°	164	167	177	185	189	146
135°	211	214	218	225	228	163
145°	256	258	259	262	262	160
155°	292	293	294	295	295	135
165°	318	318	318	320	318	90
175°	331	330	330	331	330	31
180°	332	332	332	332	332	



TEST NUMBER: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-UDD-D1

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	12.0	17.0	21.9	26.8	31.9	37.3	42.7	48.1	53.5	56.7
90°	3.9	9.3	14.7	20.0	25.4	31.4	37.9	44.4	50.8	57.3	60.4
92.5°	8.3	13.2	18.1	22.9	27.7	32.8	38.0	43.3	48.6	53.8	57.0
95°	17.4	21.8	26.2	30.6	34.9	39.6	44.5	49.4	54.3	59.3	62.3
97.5°	29.1	33.0	36.9	40.8	44.7	49.0	53.9	58.7	63.5	68.4	71.4
100°	38.0	41.5	45.0	48.4	51.9	55.9	60.6	65.3	69.9	74.6	77.6
102.5°	47.2	50.3	53.4	56.5	59.6	63.5	68.0	72.6	77.2	81.8	84.7
105°	61.9	64.5	67.0	69.5	72.0	75.4	79.7	84.0	88.2	92.5	95.5
107.5°	77.2	79.4	81.5	83.7	85.8	88.8	92.8	96.8	100.8	104.7	107.5
110°	86.8	88.8	90.8	92.7	94.7	97.7	101.6	105.4	109.4	113.3	115.9



TEST NUMBER: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	97.5	99.3	101.0	102.7	104.4	107.1	110.8	114.5	118.1	121.8	124.2
115°	113.4	114.6	115.9	117.2	118.4	120.7	124.2	127.7	131.2	134.7	137.0
117.5°	128.8	129.9	130.9	132.1	133.1	135.1	138.1	141.1	144.1	147.0	149.2
120°	139.3	140.1	141.0	141.8	142.6	144.3	147.1	149.8	152.5	155.2	157.4
122.5°	148.9	149.7	150.4	151.1	151.9	153.5	156.2	158.9	161.5	164.2	166.2
125°	163.6	164.1	164.7	165.2	165.9	167.3	169.7	172.1	174.4	176.8	178.8
127.5°	178.2	178.9	179.5	180.1	180.7	182.0	183.8	185.6	187.5	189.3	191.1
130°	187.4	188.1	188.9	189.6	190.3	191.5	193.0	194.6	196.1	197.6	199.5
132.5°	197.7	198.3	198.8	199.5	200.0	201.0	202.3	203.6	204.9	206.3	207.8
135°	211.1	211.8	212.5	213.2	213.8	214.7	215.6	216.5	217.5	218.3	220.0
137.5°	225.6	226.2	226.7	227.2	227.8	228.3	228.9	229.3	229.8	230.4	231.8
140°	234.3	234.8	235.3	235.8	236.2	236.7	237.2	237.7	238.1	238.6	239.9
142.5°	243.3	243.8	244.2	244.7	245.2	245.6	245.8	246.1	246.3	246.5	247.6
145°	255.8	256.3	256.7	257.1	257.5	257.9	258.3	258.7	259.0	259.4	260.0
147.5°	267.3	267.8	268.3	268.9	269.3	269.7	270.0	270.3	270.5	270.8	270.9
150°	275.1	275.5	275.8	276.2	276.6	276.9	277.2	277.4	277.7	277.9	278.1
152.5°	282.1	282.4	282.8	283.2	283.5	283.9	284.2	284.5	284.8	285.1	285.3
155°	292.5	292.6	292.9	293.0	293.2	293.4	293.6	293.7	294.0	294.1	294.5
157.5°	301.3	301.5	301.6	301.7	301.9	302.0	302.1	302.2	302.3	302.5	302.9
160°	306.7	306.9	307.0	307.1	307.2	307.4	307.4	307.4	307.5	307.6	307.9
162.5°	311.6	311.7	311.7	311.7	311.8	311.8	311.9	312.0	312.0	312.0	312.5
165°	318.2	318.1	318.1	318.1	318.0	317.9	317.9	317.9	317.9	317.9	318.4
167.5°	323.7	323.5	323.4	323.1	323.0	322.9	322.8	322.8	322.8	322.8	323.2
170°	326.6	326.5	326.2	326.1	325.9	325.7	325.7	325.6	325.6	325.5	325.9
172.5°	328.6	328.4	328.3	328.0	327.9	327.7	327.7	327.6	327.6	327.5	328.0
175°	331.1	330.9	330.7	330.5	330.3	330.2	330.1	329.9	329.8	329.7	330.1
177.5°	332.1	331.9	331.8	331.7	331.5	331.4	331.3	331.2	331.1	331.0	331.3
180°	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7



TEST NUMBER: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-UDD-D1

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°	60.0	63.2	66.5	68.6	69.6	70.7	71.7	72.7
90°	63.5	66.5	69.6	71.6	72.6	73.7	74.7	75.7
92.5°	60.1	63.3	66.5	68.5	69.5	70.4	71.5	72.4
95°	65.4	68.4	71.5	73.4	74.2	75.1	75.9	76.8
97.5°	74.3	77.3	80.2	82.1	83.1	84.1	85.0	85.9
100°	80.6	83.5	86.4	88.3	89.1	90.0	90.8	91.6
102.5°	87.7	90.6	93.6	95.5	96.3	97.0	97.9	98.7
105°	98.4	101.3	104.3	106.2	107.0	107.9	108.8	109.6
107.5°	110.2	113.0	115.7	117.3	118.0	118.5	119.1	119.7
110°	118.4	121.0	123.6	125.2	125.9	126.6	127.2	127.9



TEST NUMBER: P331244-927

CATALOG NUMBER: SA2XXDIP-C290D330U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	126.7	129.0	131.4	133.0	133.8	134.5	135.2	136.0
115°	139.3	141.6	144.0	145.5	146.2	146.9	147.6	148.3
117.5°	151.5	153.7	155.9	157.3	158.0	158.6	159.2	159.9
120°	159.6	161.9	164.1	165.6	166.3	167.0	167.7	168.3
122.5°	168.3	170.2	172.3	173.6	174.2	174.8	175.5	176.1
125°	180.8	182.8	184.7	186.0	186.6	187.4	188.0	188.6
127.5°	192.8	194.6	196.4	197.5	198.0	198.5	199.0	199.6
130°	201.3	203.0	204.9	206.0	206.4	206.8	207.2	207.5
132.5°	209.4	211.0	212.5	213.6	214.0	214.4	214.9	215.3
135°	221.6	223.2	224.8	225.9	226.3	226.7	227.2	227.7
137.5°	233.2	234.6	236.1	236.9	237.2	237.5	237.8	238.1
140°	241.1	242.5	243.8	244.5	244.7	244.9	245.2	245.4
142.5°	248.7	249.8	250.8	251.4	251.6	251.8	252.0	252.2
145°	260.5	261.1	261.6	262.0	262.1	262.3	262.4	262.5
147.5°	271.2	271.3	271.6	271.6	271.6	271.6	271.5	271.5
150°	278.3	278.5	278.7	278.7	278.5	278.3	278.1	277.9
152.5°	285.6	285.8	286.1	286.1	285.8	285.6	285.3	285.1
155°	294.8	295.1	295.4	295.5	295.2	295.1	294.9	294.7
157.5°	303.2	303.7	304.1	304.2	303.9	303.6	303.3	303.0
160°	308.3	308.7	309.1	309.1	308.9	308.6	308.4	308.2
162.5°	312.9	313.3	313.8	313.8	313.5	313.2	312.9	312.6
165°	318.8	319.2	319.6	319.7	319.4	319.1	318.8	318.5
167.5°	323.7	324.1	324.6	324.6	324.3	323.9	323.6	323.3
170°	326.4	326.8	327.3	327.3	326.9	326.5	326.1	325.7
172.5°	328.4	328.8	329.2	329.3	328.9	328.5	328.2	327.8
175°	330.6	331.0	331.4	331.4	331.1	330.7	330.3	329.9
177.5°	331.6	331.8	332.2	332.2	331.8	331.6	331.3	331.0
180°	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7

(END OF REPORT)