

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

Luminaire Tested: **SA2XXDIP-C290D530U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331254
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-C290D530U835-4F0-1E-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

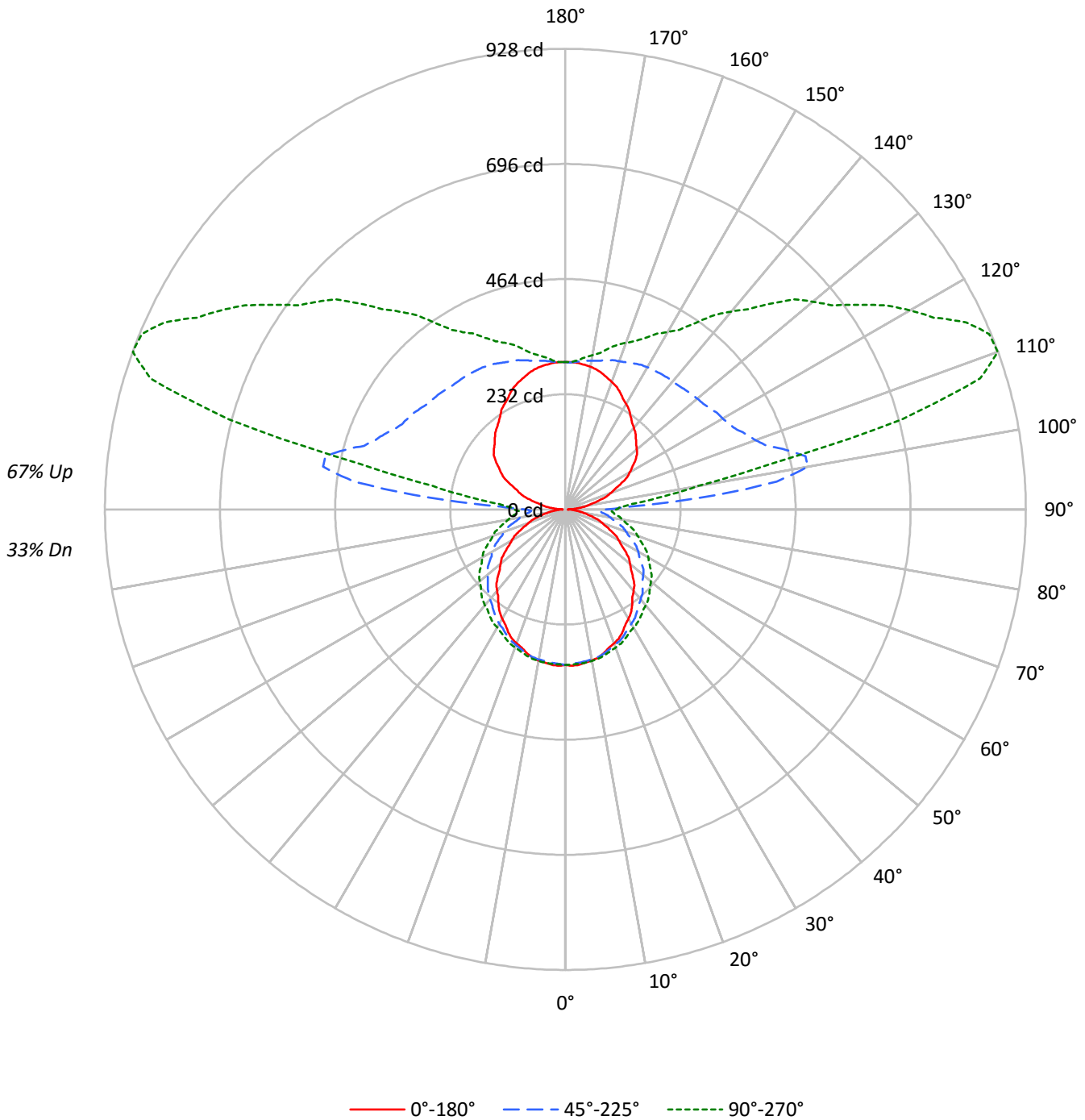
Lumens per Lamp: N/A
Luminaire Lumens: 3262.1 lumens
Efficiency: N/A
Efficacy: 127.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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
CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331254

CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

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

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: P331254

CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.9
10°-20°	85.2	2.6
20°-30°	129.1	4.0
30°-40°	157.2	4.8
40°-50°	169.1	5.2
50°-60°	164.2	5.0
60°-70°	143.4	4.4
70°-80°	110.4	3.4
80°-90°	76.8	2.4
90°-100°	169.6	5.2
100°-110°	439.6	13.5
110°-120°	452.1	13.9
120°-130°	365.6	11.2
130°-140°	288.3	8.8
140°-150°	214.5	6.6
150°-160°	150.1	4.6
160°-170°	88.3	2.7
170°-180°	28.8	0.9
0°-30°	243.9	7.5
0°-40°	401.1	12.3
0°-60°	734.5	22.5
0°-90°	1065.1	32.6
90°-120°	1061.4	32.5
90°-150°	1929.9	59.2
90°-180°	2197.0	67.3
0°-180°	3262.1	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	39	79	96	102	4
95°	24	74	276	153	140	24
105°	72	121	462	810	703	77
115°	124	162	381	770	892	123
125°	172	204	355	618	718	153
135°	201	240	341	511	587	156
145°	229	263	334	418	459	144
155°	261	281	324	367	382	120
165°	284	293	311	330	335	80
175°	296	296	299	303	302	28
180°	296	296	296	296	296	



TEST NUMBER: P331254

CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

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	15.4	21.8	28.1	34.3	40.9	48.0	55.2	62.4	68.9	72.9
90°	5.1	12.7	20.8	27.8	34.8	42.7	52.0	62.4	72.3	79.4	82.8
92.5°	11.1	19.7	29.2	37.2	46.5	57.7	76.8	101.2	123.6	130.8	123.3
95°	23.6	30.6	41.1	50.9	64.8	83.9	116.2	171.9	244.1	275.8	251.7
97.5°	35.7	43.0	53.3	65.2	79.9	100.5	139.2	214.2	329.9	430.0	452.4
100°	47.1	52.5	61.4	74.3	89.4	110.1	145.9	221.2	350.0	496.0	581.8
102.5°	57.2	61.9	70.4	83.0	98.2	118.7	152.1	219.4	339.0	495.7	628.5
105°	71.8	77.1	84.0	95.5	110.9	131.0	163.0	219.0	318.4	461.7	616.9
107.5°	88.2	92.3	98.6	108.8	123.6	143.3	174.4	223.6	306.4	425.5	562.9
110°	98.8	103.1	108.5	117.9	131.9	152.0	182.0	228.0	302.5	407.8	529.1



TEST NUMBER: P331254

CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.8	112.8	118.4	127.0	140.2	160.4	189.3	232.8	300.7	395.3	504.7
115°	124.4	128.4	132.9	140.9	153.4	171.6	200.7	240.0	299.9	380.8	474.0
117.5°	140.2	143.2	147.3	154.1	165.8	184.2	211.1	247.9	300.6	371.7	453.1
120°	150.2	152.9	156.7	162.3	174.1	192.3	218.5	253.4	301.3	366.4	441.6
122.5°	159.8	161.8	165.4	171.1	182.7	201.1	225.7	258.1	302.6	362.4	431.6
125°	172.0	173.7	177.1	184.0	195.4	213.0	236.7	265.6	304.2	355.3	416.8
127.5°	182.0	184.2	188.9	196.3	207.2	224.9	247.4	273.1	306.5	350.1	403.0
130°	188.0	190.1	195.7	203.6	214.9	231.9	254.0	277.8	308.4	347.0	393.9
132.5°	193.4	196.1	202.1	210.5	222.2	239.0	259.7	282.5	310.4	344.4	386.2
135°	201.2	203.5	210.3	218.9	232.0	248.5	267.7	288.7	312.5	340.9	375.5
137.5°	209.0	211.7	218.5	227.6	240.6	255.6	274.1	293.1	314.3	338.1	367.3
140°	214.9	217.1	223.8	232.8	245.3	260.2	277.5	295.3	314.9	336.2	362.4
142.5°	220.8	222.5	228.8	237.8	249.8	263.7	280.4	297.7	315.7	335.5	358.1
145°	229.3	231.5	237.2	245.8	257.2	269.7	285.1	301.1	317.1	334.2	353.0
147.5°	238.8	240.5	246.0	253.9	263.4	274.5	289.0	303.1	317.5	332.1	348.2
150°	245.2	246.9	251.5	258.9	267.5	277.7	290.8	304.0	317.1	330.8	344.5
152.5°	251.6	252.4	257.0	263.5	271.6	280.9	292.7	304.4	316.2	328.5	341.3
155°	260.6	261.2	264.6	270.9	277.2	285.7	295.4	305.1	314.8	324.5	335.3
157.5°	268.1	268.7	271.5	276.9	282.0	289.1	297.3	305.1	312.2	320.4	329.7
160°	273.2	273.7	276.0	280.6	285.1	291.4	298.3	305.1	310.8	317.7	325.6
162.5°	278.2	277.8	280.1	283.8	287.9	292.8	298.7	304.6	309.4	315.4	322.0
165°	284.0	283.4	284.6	288.0	290.8	294.3	299.4	303.4	306.8	310.8	315.9
167.5°	288.8	288.1	289.1	291.3	293.4	295.5	299.3	302.6	304.2	306.8	310.0
170°	292.0	290.8	291.4	293.1	294.3	296.0	298.8	301.7	302.8	304.5	306.8
172.5°	293.8	293.1	292.8	294.5	295.2	296.4	298.4	300.3	301.0	301.8	303.6
175°	296.0	295.4	294.8	296.0	296.0	296.5	297.7	298.8	298.3	298.8	299.4
177.5°	297.0	296.1	295.6	296.5	296.5	296.5	297.0	297.9	297.0	296.5	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5



TEST NUMBER: P331254

CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

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°	76.9	80.8	85.2	88.0	89.3	90.6	91.9	93.2
90°	86.3	89.2	94.4	97.6	98.8	100.0	101.2	102.4
92.5°	114.3	111.2	110.4	109.4	110.2	109.6	111.2	111.5
95°	209.3	178.4	158.3	148.2	142.0	138.7	138.2	140.0
97.5°	404.5	344.8	286.8	248.1	222.0	209.2	202.1	198.5
100°	573.6	506.6	432.2	365.6	319.4	296.0	280.6	271.4
102.5°	683.6	671.2	617.8	547.0	496.7	455.9	436.4	423.6
105°	739.0	807.0	818.0	801.5	767.2	733.0	709.6	702.7
107.5°	692.1	792.6	855.3	885.2	890.7	889.9	886.1	876.6
110°	652.7	758.0	834.2	883.2	908.8	920.7	927.0	927.5



TEST NUMBER: P331254

CATALOG NUMBER: SA2XXDIP-C290D530U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	616.4	717.6	798.8	854.6	889.8	909.1	919.9	924.1
115°	571.1	661.9	739.7	800.5	842.1	869.4	885.4	891.6
117.5°	536.0	616.1	686.9	744.0	786.3	815.0	831.7	837.0
120°	518.0	591.6	654.8	708.7	749.7	777.7	795.3	802.1
122.5°	503.4	570.9	630.9	679.6	716.4	743.7	759.3	765.1
125°	481.7	543.2	596.1	640.7	674.6	697.2	712.4	717.9
127.5°	460.3	515.9	565.8	606.9	636.7	657.9	671.1	675.6
130°	446.5	498.0	545.5	584.7	613.5	633.7	645.9	651.3
132.5°	433.3	481.0	524.7	561.7	590.0	610.2	621.5	626.4
135°	414.7	454.5	494.2	527.6	553.0	572.6	583.7	586.7
137.5°	399.3	432.7	464.4	493.5	516.6	533.5	543.1	547.3
140°	389.7	418.6	446.5	472.7	491.5	507.0	516.1	520.2
142.5°	381.9	406.5	430.3	452.2	470.1	484.1	492.2	493.4
145°	371.3	390.8	409.0	426.1	440.3	450.5	456.7	458.9
147.5°	363.3	378.2	392.1	404.4	415.9	423.9	428.0	429.3
150°	358.1	370.7	382.7	392.9	401.5	408.3	411.7	412.3
152.5°	353.1	364.8	374.9	383.8	390.5	396.5	399.0	399.1
155°	346.2	355.3	363.8	370.1	376.4	380.4	382.7	381.5
157.5°	338.1	345.7	352.9	357.8	362.2	365.6	366.6	366.6
160°	333.0	339.3	345.6	349.6	353.6	356.4	357.0	357.0
162.5°	328.0	333.4	338.8	341.8	345.8	347.8	348.3	347.9
165°	320.5	324.5	328.5	330.8	333.0	335.3	335.3	334.8
167.5°	313.3	316.4	319.1	321.2	322.2	323.5	323.4	322.7
170°	309.7	311.4	313.7	314.8	315.4	317.1	316.5	315.4
172.5°	305.6	306.8	308.6	309.3	309.9	310.7	310.1	309.4
175°	301.1	301.7	302.3	302.8	302.8	303.4	302.8	301.7
177.5°	297.9	297.9	298.4	298.4	298.4	298.4	297.9	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5

(END OF REPORT)