

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: P331252-930

Luminaire Tested: **SA2XXDIP-C290D530U930-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331252-930
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-C290D530U930-4F0-1E-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

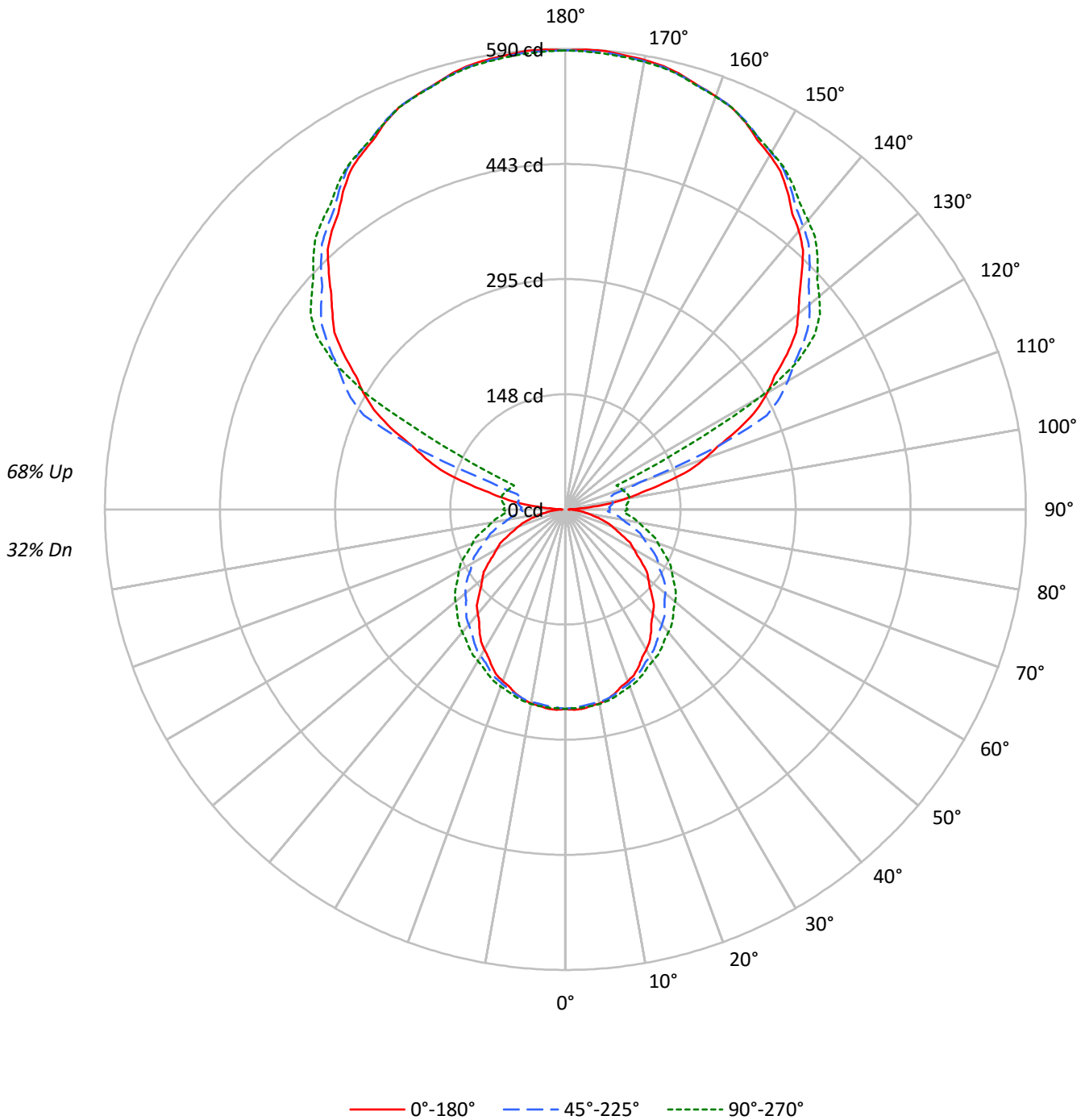
Lumens per Lamp: N/A
Luminaire Lumens: 2699.6 lumens
Efficiency: N/A
Efficacy: 105.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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



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Luminous Intensity Polar Plot





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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.2	0.9
10°-20°	69.4	2.6
20°-30°	105.2	3.9
30°-40°	128.2	4.7
40°-50°	137.9	5.1
50°-60°	133.9	5.0
60°-70°	116.9	4.3
70°-80°	90.0	3.3
80°-90°	61.9	2.3
90°-100°	61.2	2.3
100°-110°	102.3	3.8
110°-120°	212.3	7.9
120°-130°	328.6	12.2
130°-140°	342.2	12.7
140°-150°	314.5	11.7
150°-160°	252.2	9.3
160°-170°	162.5	6.0
170°-180°	55.9	2.1
0°-30°	198.9	7.4
0°-40°	327.1	12.1
0°-60°	598.8	22.2
0°-90°	867.6	32.1
90°-120°	375.9	13.9
90°-150°	1361.3	50.4
90°-180°	1832.0	67.9
0°-180°	2699.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	4	30	57	74	80	4
95°	31	35	59	75	79	36
105°	131	148	58	75	81	140
115°	246	258	285	108	72	242
125°	347	353	372	385	390	309
135°	428	435	443	454	457	331
145°	496	497	503	508	508	311
155°	547	543	548	550	547	252
165°	576	574	575	578	575	163
175°	589	586	587	590	586	56
180°	588	588	588	588	588	



TEST NUMBER: P331252-930

CATALOG NUMBER: SA2XXDIP-C290D530U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.3	12.5	17.6	22.7	27.8	33.1	38.5	43.9	49.3	54.7	58.2
90°	4.2	9.9	15.7	21.6	27.4	33.3	39.3	45.3	51.4	57.4	61.1
92.5°	12.0	16.4	20.7	25.0	29.4	34.3	39.8	45.2	50.6	56.1	59.6
95°	30.7	31.4	32.1	32.9	33.6	36.8	42.4	48.0	53.6	59.2	62.8
97.5°	57.5	52.1	46.8	41.4	36.0	36.5	42.8	49.1	55.4	61.6	65.1
100°	77.9	68.0	58.0	48.2	38.2	36.4	42.6	48.8	55.0	61.3	65.1
102.5°	100.0	100.1	100.1	100.2	100.2	95.8	86.8	77.9	68.9	59.9	63.8
105°	131.2	136.4	141.6	146.8	152.1	143.9	122.4	100.9	79.3	57.8	61.7
107.5°	167.1	171.3	175.5	179.7	183.9	172.6	145.7	118.9	92.0	65.1	66.9
110°	190.0	193.6	197.2	200.9	204.5	194.7	171.4	148.1	124.8	101.5	94.7



TEST NUMBER: P331252-930
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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	211.7	214.9	218.0	221.2	224.3	224.5	221.5	218.6	215.6	212.8	180.9
115°	246.1	248.7	251.2	253.6	256.2	260.5	266.5	272.6	278.7	284.8	243.4
117.5°	276.5	278.8	281.3	283.6	286.0	289.8	294.8	299.9	304.9	310.0	301.8
120°	299.0	300.7	302.5	304.2	305.9	309.3	314.3	319.3	324.3	329.3	332.7
122.5°	318.0	319.6	321.2	322.9	324.5	327.8	332.7	337.7	342.7	347.6	350.5
125°	346.7	347.9	349.1	350.3	351.6	354.4	358.8	363.3	367.7	372.1	375.0
127.5°	372.9	374.2	375.5	376.7	378.1	380.4	383.9	387.3	390.9	394.3	397.3
130°	389.6	391.1	392.5	394.0	395.3	397.5	400.2	403.0	405.8	408.5	411.6
132.5°	406.7	407.8	409.0	410.3	411.5	413.3	415.6	418.0	420.4	422.7	425.5
135°	428.4	429.9	431.5	432.9	434.5	436.0	437.7	439.4	441.1	442.7	445.4
137.5°	450.8	451.8	452.9	453.9	454.9	456.2	457.5	458.8	460.2	461.5	463.9
140°	465.5	466.1	466.8	467.4	468.1	469.0	470.3	471.5	472.6	473.9	476.1
142.5°	477.7	478.3	478.9	479.5	480.0	480.9	482.2	483.4	484.6	485.8	487.7
145°	496.5	496.4	496.4	496.3	496.2	496.9	498.6	500.1	501.7	503.4	504.5
147.5°	513.3	512.9	512.6	512.3	511.8	512.5	514.0	515.7	517.2	518.9	519.4
150°	524.2	523.5	522.9	522.2	521.5	522.0	523.5	525.0	526.5	528.0	528.6
152.5°	533.4	532.6	531.9	531.2	530.4	530.8	532.2	533.7	535.1	536.5	537.1
155°	546.7	545.9	545.0	544.2	543.3	543.5	544.6	545.8	546.9	548.0	548.6
157.5°	557.2	556.5	555.8	555.1	554.3	554.4	555.1	556.0	556.8	557.6	558.2
160°	563.4	562.8	562.2	561.7	561.1	561.1	561.7	562.2	562.8	563.4	563.9
162.5°	568.8	568.2	567.6	567.0	566.6	566.5	567.0	567.4	567.9	568.4	569.1
165°	576.1	575.5	574.9	574.4	573.8	573.7	574.0	574.2	574.5	574.8	575.5
167.5°	581.6	581.0	580.4	579.8	579.3	579.1	579.4	579.7	579.9	580.2	580.8
170°	584.6	584.1	583.5	582.9	582.4	582.1	582.4	582.5	582.7	582.9	583.6
172.5°	586.7	586.1	585.5	585.0	584.4	584.2	584.4	584.6	584.7	585.0	585.6
175°	589.3	588.6	588.0	587.3	586.6	586.4	586.6	586.8	586.9	587.2	587.8
177.5°	589.7	589.2	588.6	588.2	587.6	587.3	587.4	587.5	587.6	587.7	588.2
180°	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0



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CATALOG NUMBER: SA2XXDIP-C290D530U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	61.6	65.1	68.6	70.8	71.9	73.0	74.1	75.2
90°	64.9	68.7	72.5	74.9	76.1	77.3	78.4	79.7
92.5°	63.0	66.5	70.0	72.2	73.4	74.4	75.6	76.6
95°	66.4	70.0	73.6	75.8	76.7	77.6	78.5	79.4
97.5°	68.5	71.9	75.3	77.5	78.7	79.7	80.8	81.9
100°	68.9	72.7	76.5	78.9	80.1	81.1	82.3	83.3
102.5°	67.8	71.7	75.7	78.4	79.5	80.6	81.9	83.0
105°	65.6	69.5	73.5	76.1	77.4	78.7	80.0	81.2
107.5°	68.6	70.3	72.0	73.5	74.8	76.1	77.3	78.6
110°	87.9	81.0	74.2	71.4	72.7	74.0	75.3	76.6



TEST NUMBER: P331252-930

CATALOG NUMBER: SA2XXDIP-C290D530U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	149.0	117.2	85.4	70.0	71.3	72.4	73.6	74.8
115°	202.1	160.9	119.5	95.9	90.0	84.1	78.2	72.3
117.5°	293.7	285.5	277.4	262.5	241.0	219.5	197.9	176.3
120°	336.1	339.6	343.1	338.8	326.9	315.1	303.3	291.4
122.5°	353.4	356.4	359.3	359.9	358.2	356.4	354.7	353.0
125°	377.9	380.7	383.7	385.6	386.6	387.7	388.7	389.7
127.5°	400.3	403.3	406.3	408.2	409.0	409.8	410.6	411.3
130°	414.6	417.6	420.6	422.4	423.0	423.5	424.0	424.6
132.5°	428.4	431.1	433.9	435.6	436.2	436.8	437.3	437.9
135°	448.1	450.8	453.5	455.0	455.5	455.9	456.4	456.9
137.5°	466.4	468.8	471.2	472.5	472.8	473.0	473.3	473.5
140°	478.2	480.4	482.6	483.6	483.6	483.7	483.7	483.7
142.5°	489.5	491.4	493.2	494.1	494.1	494.0	493.9	493.9
145°	505.6	506.8	507.9	508.5	508.4	508.4	508.3	508.3
147.5°	519.9	520.5	521.1	521.2	521.1	520.8	520.7	520.4
150°	529.1	529.7	530.3	530.4	529.9	529.4	528.9	528.5
152.5°	537.7	538.3	538.8	538.7	538.2	537.5	536.9	536.3
155°	549.2	549.8	550.3	550.2	549.4	548.7	548.0	547.1
157.5°	558.8	559.5	560.1	560.1	559.3	558.6	557.8	557.1
160°	564.4	565.0	565.6	565.6	564.9	564.3	563.5	562.9
162.5°	569.7	570.4	571.0	571.0	570.1	569.3	568.5	567.7
165°	576.2	576.8	577.5	577.5	576.8	576.2	575.5	574.8
167.5°	581.5	582.2	582.9	582.8	581.9	581.1	580.2	579.4
170°	584.2	584.9	585.5	585.5	584.6	583.8	582.9	582.0
172.5°	586.3	586.9	587.6	587.5	586.7	585.8	585.0	584.1
175°	588.5	589.1	589.8	589.7	588.7	587.7	586.9	585.9
177.5°	588.7	589.3	589.8	589.7	589.1	588.3	587.7	587.0
180°	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0

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