

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: P331252-940

Luminaire Tested: **SA2XXDIP-C290D530U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331252-940  
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-C290D530U940-4F0-1E-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**

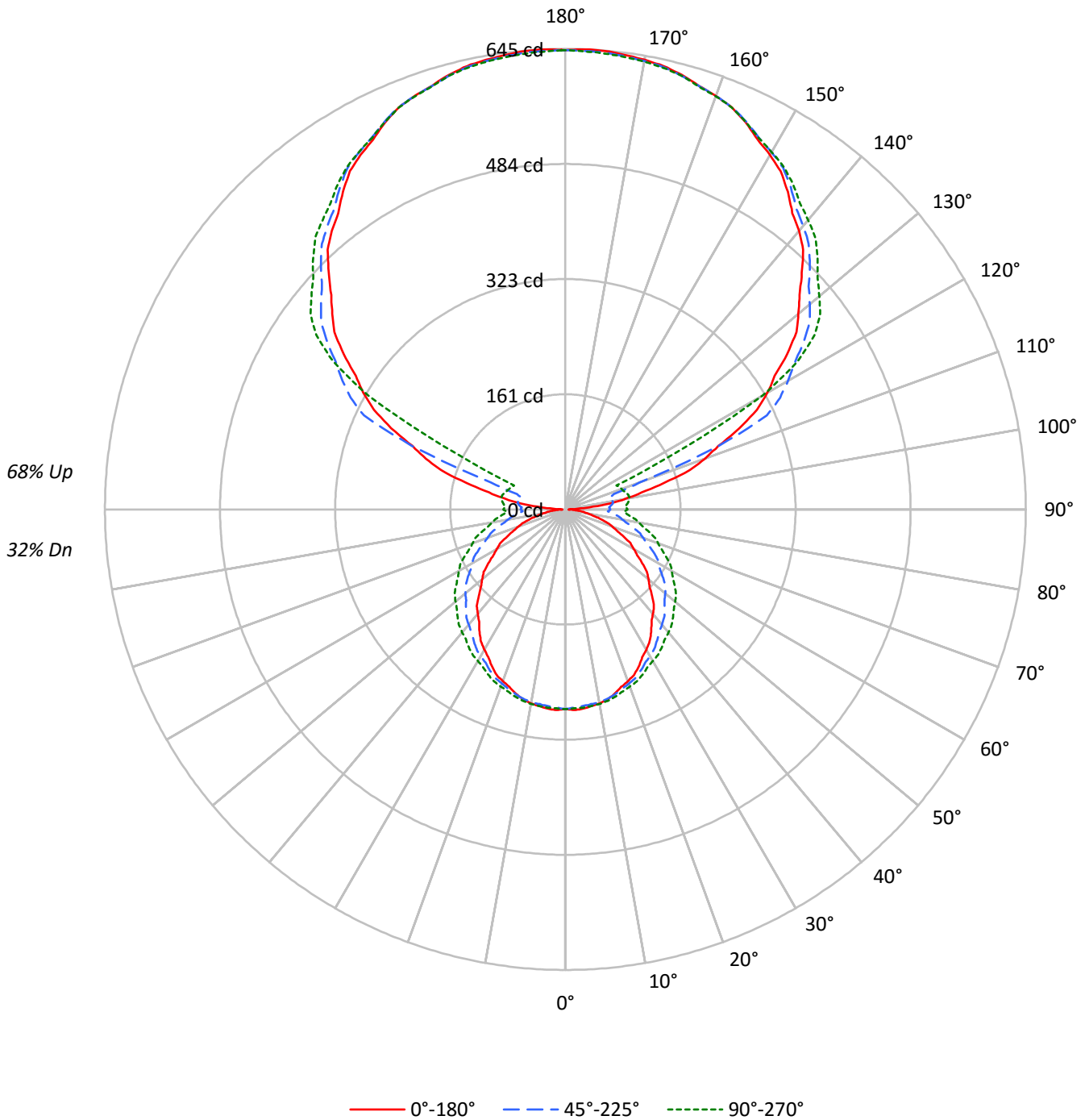
Lumens per Lamp: N/A  
Luminaire Lumens: 2952.6 lumens  
Efficiency: N/A  
Efficacy: 115.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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: P331252-940  
CATALOG NUMBER: SA2XXDIP-C290D530U940-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331252-940

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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°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



TEST NUMBER: P331252-940

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	26.5	0.9
10°-20°	75.9	2.6
20°-30°	115.1	3.9
30°-40°	140.2	4.7
40°-50°	150.8	5.1
50°-60°	146.5	5.0
60°-70°	127.9	4.3
70°-80°	98.4	3.3
80°-90°	67.7	2.3
90°-100°	67.0	2.3
100°-110°	111.9	3.8
110°-120°	232.2	7.9
120°-130°	359.4	12.2
130°-140°	374.3	12.7
140°-150°	344.0	11.7
150°-160°	275.9	9.3
160°-170°	177.8	6.0
170°-180°	61.2	2.1
0°-30°	217.5	7.4
0°-40°	357.7	12.1
0°-60°	654.9	22.2
0°-90°	948.9	32.1
90°-120°	411.1	13.9
90°-150°	1488.8	50.4
90°-180°	2004.0	67.9
0°-180°	2952.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	4	33	63	81	87	4
95°	34	38	65	82	87	40
105°	144	162	63	82	89	153
115°	269	283	312	118	79	265
125°	379	386	407	421	426	338
135°	469	476	484	497	500	362
145°	543	543	550	556	556	340
155°	598	594	599	602	598	275
165°	630	628	629	632	629	178
175°	644	642	642	645	641	61
180°	643	643	643	643	643	



TEST NUMBER: P331252-940

CATALOG NUMBER: SA2XXDIP-C290D530U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.0	13.6	19.3	24.8	30.4	36.2	42.1	48.0	53.9	59.8	63.7
90°	4.5	10.9	17.2	23.6	30.0	36.4	43.0	49.6	56.2	62.8	66.9
92.5°	13.1	17.9	22.6	27.4	32.2	37.5	43.5	49.4	55.4	61.3	65.2
95°	33.5	34.3	35.1	35.9	36.7	40.2	46.4	52.5	58.6	64.7	68.7
97.5°	62.9	57.0	51.2	45.3	39.4	39.9	46.8	53.7	60.5	67.4	71.2
100°	85.2	74.4	63.5	52.7	41.8	39.9	46.6	53.4	60.2	67.1	71.2
102.5°	109.4	109.5	109.5	109.6	109.6	104.8	95.0	85.2	75.3	65.5	69.8
105°	143.5	149.2	154.9	160.6	166.3	157.4	133.8	110.3	86.8	63.2	67.5
107.5°	182.8	187.3	192.0	196.5	201.2	188.8	159.3	130.0	100.7	71.2	73.1
110°	207.8	211.8	215.7	219.7	223.6	212.9	187.4	161.9	136.5	111.0	103.5



TEST NUMBER: P331252-940

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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	231.6	235.1	238.4	241.9	245.3	245.5	242.3	239.1	235.9	232.7	197.9
115°	269.2	272.0	274.7	277.4	280.2	284.9	291.5	298.2	304.8	311.5	266.3
117.5°	302.4	305.0	307.6	310.2	312.8	316.9	322.4	328.0	333.5	339.0	330.1
120°	327.0	328.9	330.8	332.7	334.6	338.3	343.8	349.2	354.7	360.2	363.9
122.5°	347.9	349.6	351.3	353.1	354.9	358.6	363.9	369.3	374.8	380.1	383.3
125°	379.2	380.5	381.8	383.2	384.5	387.6	392.4	397.3	402.2	407.0	410.2
127.5°	407.9	409.3	410.7	412.1	413.5	416.1	419.9	423.7	427.5	431.2	434.5
130°	426.1	427.8	429.3	430.9	432.4	434.7	437.7	440.8	443.8	446.8	450.1
132.5°	444.8	446.0	447.4	448.7	450.0	452.0	454.6	457.2	459.8	462.4	465.4
135°	468.6	470.2	471.9	473.5	475.2	476.9	478.8	480.5	482.4	484.2	487.1
137.5°	493.0	494.2	495.3	496.4	497.6	498.9	500.3	501.8	503.3	504.7	507.4
140°	509.1	509.8	510.5	511.2	512.0	513.0	514.3	515.7	516.9	518.3	520.7
142.5°	522.5	523.1	523.8	524.4	525.0	526.0	527.4	528.7	530.0	531.4	533.4
145°	543.1	543.0	542.9	542.8	542.7	543.5	545.3	547.0	548.8	550.5	551.8
147.5°	561.4	561.0	560.6	560.3	559.8	560.5	562.2	564.0	565.7	567.5	568.1
150°	573.3	572.6	571.9	571.1	570.4	570.9	572.6	574.2	575.9	577.5	578.1
152.5°	583.4	582.6	581.8	580.9	580.1	580.5	582.1	583.7	585.2	586.8	587.5
155°	598.0	597.1	596.1	595.2	594.2	594.4	595.7	596.9	598.2	599.4	600.0
157.5°	609.4	608.7	607.9	607.1	606.3	606.4	607.2	608.1	608.9	609.8	610.5
160°	616.2	615.5	614.9	614.3	613.7	613.7	614.3	614.9	615.5	616.2	616.8
162.5°	622.1	621.4	620.8	620.2	619.6	619.6	620.1	620.6	621.2	621.7	622.4
165°	630.1	629.5	628.8	628.2	627.6	627.5	627.8	628.0	628.4	628.7	629.5
167.5°	636.1	635.4	634.8	634.2	633.6	633.4	633.6	634.0	634.3	634.5	635.3
170°	639.4	638.8	638.2	637.6	636.9	636.7	636.9	637.1	637.3	637.6	638.3
172.5°	641.7	641.1	640.4	639.8	639.2	638.9	639.2	639.4	639.5	639.8	640.5
175°	644.5	643.8	643.1	642.4	641.6	641.4	641.6	641.8	641.9	642.2	642.9
177.5°	645.0	644.4	643.8	643.3	642.7	642.4	642.5	642.6	642.7	642.7	643.4
180°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1



TEST NUMBER: P331252-940

CATALOG NUMBER: SA2XXDIP-C290D530U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	67.4	71.2	75.0	77.5	78.6	79.8	81.1	82.2
90°	71.0	75.2	79.3	81.9	83.2	84.5	85.8	87.1
92.5°	68.9	72.8	76.5	79.0	80.3	81.4	82.7	83.8
95°	72.6	76.5	80.5	82.9	83.9	84.9	85.9	86.9
97.5°	74.9	78.6	82.4	84.8	86.1	87.2	88.4	89.6
100°	75.3	79.5	83.6	86.3	87.6	88.7	90.0	91.1
102.5°	74.2	78.5	82.8	85.7	86.9	88.2	89.5	90.8
105°	71.8	76.1	80.3	83.2	84.6	86.1	87.5	88.8
107.5°	75.0	76.9	78.7	80.3	81.8	83.2	84.5	86.0
110°	96.1	88.6	81.1	78.1	79.5	81.0	82.3	83.7





TEST NUMBER: P331252-940

CATALOG NUMBER: SA2XXDIP-C290D530U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	163.0	128.1	93.4	76.6	77.9	79.2	80.5	81.9
115°	221.1	175.9	130.7	104.9	98.4	92.0	85.5	79.1
117.5°	321.2	312.3	303.4	287.1	263.6	240.0	216.4	192.9
120°	367.7	371.4	375.2	370.6	357.6	344.6	331.7	318.7
122.5°	386.6	389.8	393.0	393.6	391.7	389.9	388.0	386.1
125°	413.3	416.4	419.6	421.8	422.8	424.0	425.1	426.2
127.5°	437.8	441.1	444.4	446.5	447.4	448.2	449.1	449.9
130°	453.4	456.7	460.0	462.0	462.6	463.2	463.8	464.4
132.5°	468.5	471.5	474.6	476.4	477.1	477.7	478.3	478.9
135°	490.1	493.0	496.0	497.7	498.2	498.6	499.2	499.7
137.5°	510.1	512.7	515.4	516.8	517.1	517.4	517.6	517.9
140°	523.0	525.4	527.8	529.0	529.0	529.1	529.1	529.1
142.5°	535.4	537.4	539.4	540.4	540.4	540.3	540.2	540.2
145°	553.0	554.3	555.5	556.2	556.1	556.1	556.0	555.9
147.5°	568.6	569.3	569.9	570.1	569.9	569.6	569.4	569.2
150°	578.7	579.3	580.0	580.1	579.5	579.0	578.5	578.0
152.5°	588.1	588.7	589.3	589.2	588.6	587.9	587.2	586.6
155°	600.7	601.3	601.9	601.7	600.9	600.1	599.3	598.4
157.5°	611.2	611.9	612.6	612.6	611.7	610.9	610.1	609.3
160°	617.3	618.0	618.6	618.6	617.9	617.2	616.4	615.6
162.5°	623.1	623.8	624.6	624.5	623.6	622.7	621.8	620.9
165°	630.2	630.9	631.6	631.6	630.9	630.2	629.5	628.7
167.5°	636.0	636.8	637.5	637.4	636.4	635.5	634.5	633.6
170°	639.0	639.7	640.4	640.3	639.4	638.5	637.6	636.6
172.5°	641.2	641.9	642.7	642.6	641.7	640.7	639.8	638.8
175°	643.6	644.4	645.1	645.0	643.9	642.8	641.9	640.8
177.5°	643.9	644.5	645.1	645.0	644.3	643.5	642.7	642.0
180°	643.1	643.1	643.1	643.1	643.1	643.1	643.1	643.1

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