

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: P331252-840

Luminaire Tested: **SA2XXDIP-C290D530U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331252-840  
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-C290D530U840-4F0-1E-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**

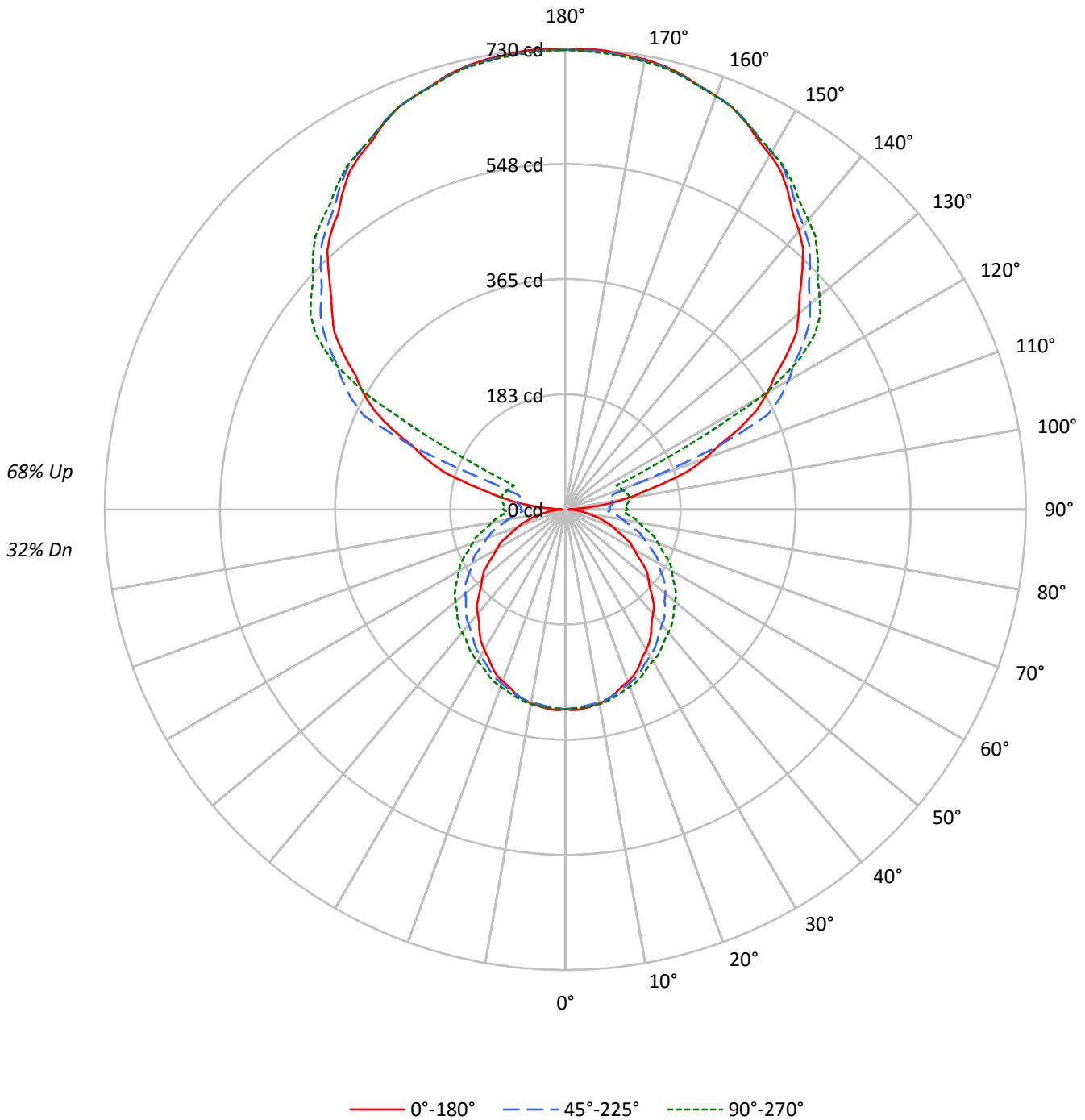
Lumens per Lamp: N/A  
Luminaire Lumens: 3343.8 lumens  
Efficiency: N/A  
Efficacy: 130.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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: P331252-840  
CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331252-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



TEST NUMBER: P331252-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.0	0.9
10°-20°	86.0	2.6
20°-30°	130.3	3.9
30°-40°	158.8	4.7
40°-50°	170.8	5.1
50°-60°	165.9	5.0
60°-70°	144.8	4.3
70°-80°	111.5	3.3
80°-90°	76.6	2.3
90°-100°	75.8	2.3
100°-110°	126.7	3.8
110°-120°	263.0	7.9
120°-130°	407.0	12.2
130°-140°	423.9	12.7
140°-150°	389.6	11.7
150°-160°	312.4	9.3
160°-170°	201.3	6.0
170°-180°	69.3	2.1
0°-30°	246.3	7.4
0°-40°	405.1	12.1
0°-60°	741.7	22.2
0°-90°	1074.7	32.1
90°-120°	465.6	13.9
90°-150°	1686.1	50.4
90°-180°	2269.0	67.9
0°-180°	3343.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	5	38	71	91	99	5
95°	38	44	73	93	98	45
105°	162	183	72	93	101	174
115°	305	320	353	133	90	300
125°	429	437	461	476	483	383
135°	531	539	548	563	566	410
145°	615	615	624	630	630	385
155°	677	673	679	682	678	312
165°	714	711	712	715	712	202
175°	730	726	727	730	726	69
180°	728	728	728	728	728	



TEST NUMBER: P331252-840  
 CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.1	15.5	21.8	28.1	34.4	41.0	47.7	54.3	61.1	67.8	72.1
90°	5.2	12.3	19.5	26.8	33.9	41.2	48.7	56.1	63.6	71.1	75.7
92.5°	14.8	20.3	25.7	31.0	36.5	42.5	49.3	55.9	62.7	69.5	73.8
95°	38.0	38.9	39.8	40.7	41.6	45.5	52.5	59.5	66.3	73.3	77.8
97.5°	71.2	64.5	58.0	51.3	44.6	45.2	53.0	60.8	68.6	76.3	80.6
100°	96.5	84.2	71.9	59.7	47.4	45.1	52.8	60.5	68.2	75.9	80.6
102.5°	123.9	124.0	124.0	124.1	124.1	118.7	107.6	96.4	85.3	74.2	79.1
105°	162.5	169.0	175.4	181.9	188.3	178.2	151.6	124.9	98.3	71.6	76.4
107.5°	207.0	212.2	217.4	222.6	227.8	213.8	180.5	147.2	114.0	80.7	82.8
110°	235.3	239.8	244.3	248.8	253.3	241.2	212.3	183.4	154.6	125.7	117.2



TEST NUMBER: P331252-840  
 CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	262.3	266.2	270.0	274.0	277.8	278.0	274.4	270.7	267.1	263.6	224.1
115°	304.9	308.0	311.1	314.2	317.3	322.7	330.1	337.7	345.2	352.7	301.5
117.5°	342.4	345.4	348.4	351.3	354.3	358.9	365.2	371.4	377.7	384.0	373.9
120°	370.3	372.4	374.7	376.8	378.9	383.1	389.3	395.5	401.7	407.9	412.1
122.5°	393.9	395.9	397.9	399.9	401.9	406.1	412.1	418.3	424.4	430.5	434.1
125°	429.4	430.9	432.4	433.9	435.5	439.0	444.4	450.0	455.4	460.9	464.5
127.5°	461.9	463.5	465.1	466.7	468.3	471.2	475.5	479.8	484.1	488.4	492.1
130°	482.6	484.4	486.1	488.0	489.7	492.3	495.7	499.2	502.6	506.0	509.8
132.5°	503.7	505.1	506.6	508.2	509.7	511.9	514.8	517.8	520.7	523.6	527.0
135°	530.7	532.5	534.4	536.2	538.2	540.1	542.2	544.2	546.3	548.4	551.7
137.5°	558.4	559.7	561.0	562.2	563.5	565.0	566.6	568.3	570.0	571.6	574.6
140°	576.5	577.3	578.1	579.0	579.9	581.0	582.5	584.0	585.4	586.9	589.7
142.5°	591.7	592.4	593.2	593.9	594.6	595.7	597.2	598.7	600.3	601.8	604.1
145°	615.0	614.9	614.8	614.7	614.6	615.5	617.5	619.5	621.5	623.5	624.9
147.5°	635.8	635.3	634.9	634.5	634.0	634.8	636.7	638.7	640.7	642.7	643.4
150°	649.2	648.4	647.6	646.8	646.0	646.5	648.4	650.3	652.2	654.0	654.7
152.5°	660.7	659.7	658.8	657.9	657.0	657.4	659.2	661.1	662.8	664.6	665.3
155°	677.2	676.2	675.1	674.1	673.0	673.2	674.6	676.0	677.4	678.8	679.5
157.5°	690.1	689.3	688.4	687.5	686.6	686.7	687.6	688.6	689.6	690.6	691.4
160°	697.8	697.1	696.4	695.7	695.0	695.0	695.7	696.4	697.1	697.8	698.5
162.5°	704.5	703.8	703.1	702.4	701.8	701.7	702.3	702.9	703.5	704.1	704.9
165°	713.6	712.9	712.2	711.4	710.7	710.6	710.9	711.2	711.7	712.0	712.9
167.5°	720.3	719.6	718.9	718.2	717.5	717.3	717.6	718.0	718.3	718.6	719.4
170°	724.1	723.5	722.8	722.1	721.3	721.0	721.3	721.5	721.8	722.1	722.9
172.5°	726.7	726.0	725.3	724.6	723.9	723.6	723.9	724.1	724.3	724.6	725.4
175°	729.9	729.1	728.3	727.5	726.6	726.4	726.6	726.8	727.0	727.3	728.1
177.5°	730.4	729.8	729.1	728.5	727.8	727.5	727.6	727.7	727.8	727.9	728.6
180°	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3



TEST NUMBER: P331252-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	76.3	80.6	84.9	87.8	89.1	90.4	91.8	93.1
90°	80.4	85.1	89.8	92.8	94.2	95.7	97.1	98.7
92.5°	78.1	82.4	86.6	89.5	90.9	92.2	93.6	94.9
95°	82.2	86.6	91.2	93.9	95.0	96.1	97.3	98.4
97.5°	84.8	89.1	93.3	96.0	97.5	98.8	100.1	101.5
100°	85.3	90.1	94.7	97.8	99.2	100.5	101.9	103.2
102.5°	84.0	88.9	93.8	97.0	98.5	99.9	101.4	102.8
105°	81.3	86.1	91.0	94.2	95.8	97.5	99.1	100.6
107.5°	84.9	87.1	89.2	91.0	92.6	94.2	95.7	97.4
110°	108.9	100.4	91.9	88.5	90.1	91.7	93.2	94.8





TEST NUMBER: P331252-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	184.6	145.1	105.7	86.7	88.3	89.7	91.2	92.7
115°	250.3	199.2	148.0	118.8	111.5	104.2	96.8	89.6
117.5°	363.8	353.7	343.6	325.2	298.5	271.9	245.1	218.4
120°	416.4	420.6	425.0	419.7	405.0	390.3	375.7	360.9
122.5°	437.8	441.4	445.0	445.8	443.6	441.5	439.4	437.3
125°	468.1	471.6	475.2	477.7	478.9	480.2	481.4	482.7
127.5°	495.8	499.6	503.3	505.6	506.6	507.6	508.6	509.5
130°	513.5	517.3	521.0	523.2	523.9	524.5	525.2	525.9
132.5°	530.6	534.0	537.5	539.6	540.3	541.0	541.7	542.4
135°	555.0	558.4	561.7	563.6	564.2	564.7	565.3	565.9
137.5°	577.6	580.7	583.7	585.3	585.6	585.9	586.2	586.5
140°	592.3	595.0	597.7	599.1	599.1	599.2	599.2	599.2
142.5°	606.3	608.6	610.9	612.0	612.0	611.9	611.8	611.8
145°	626.3	627.7	629.1	629.9	629.8	629.8	629.7	629.5
147.5°	644.0	644.7	645.4	645.6	645.4	645.1	644.9	644.6
150°	655.4	656.1	656.8	656.9	656.3	655.7	655.1	654.6
152.5°	666.0	666.7	667.4	667.3	666.6	665.8	665.0	664.3
155°	680.2	681.0	681.7	681.5	680.5	679.6	678.7	677.7
157.5°	692.2	693.0	693.8	693.8	692.8	691.9	690.9	690.0
160°	699.1	699.8	700.5	700.5	699.7	698.9	698.0	697.2
162.5°	705.7	706.5	707.3	707.2	706.2	705.2	704.2	703.2
165°	713.7	714.5	715.3	715.3	714.5	713.7	712.9	712.0
167.5°	720.2	721.1	722.0	721.9	720.7	719.7	718.6	717.6
170°	723.7	724.5	725.3	725.2	724.1	723.1	722.1	720.9
172.5°	726.2	727.0	727.8	727.7	726.7	725.6	724.6	723.5
175°	728.9	729.7	730.5	730.4	729.2	728.0	726.9	725.7
177.5°	729.2	729.9	730.5	730.4	729.6	728.7	727.9	727.1
180°	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3

(END OF REPORT)