

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: P331255-830

Luminaire Tested: **SA2XXDIP-C290D530U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331255-830
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-C290D530U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

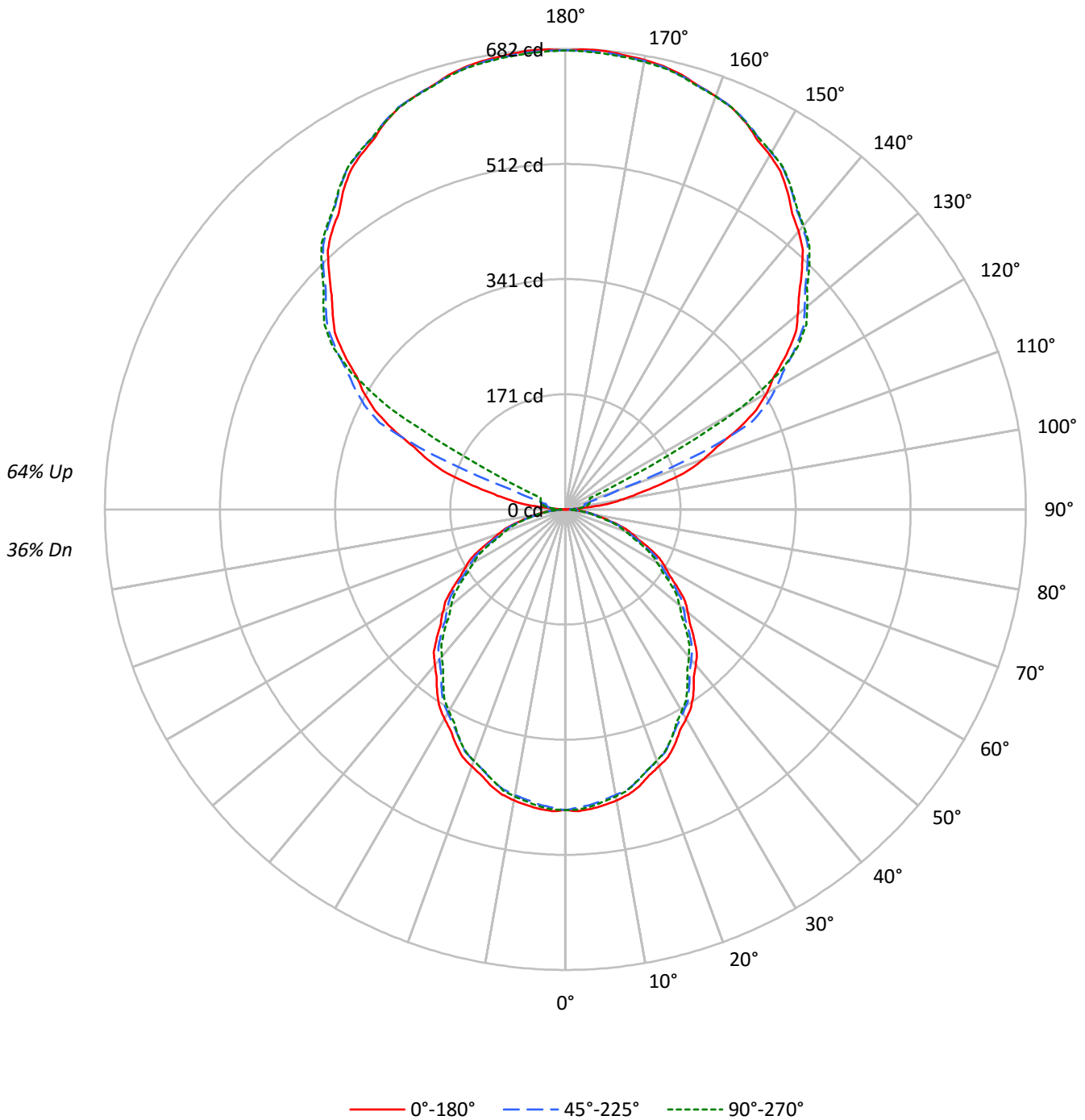
Lumens per Lamp: N/A
Luminaire Lumens: 3126.7 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

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: P331255-830
CATALOG NUMBER: SA2XXDIP-C290D530U830-4F0-1E-UDD-F

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36				36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	38	37	31				31
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	34	32	31	26				26
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	26	22				22
4	72	61	54	48	65	56	49	44	45	41	37	36	32	30	27	25	23	19				19
5	66	55	47	41	59	50	43	38	41	35	32	32	28	26	24	22	20	16				16
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17	14				14
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	17	15	13				13
8	52	40	32	27	47	36	30	25	30	25	21	24	20	18	18	16	14	11				11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10				10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9				9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



TEST NUMBER: P331255-830

CATALOG NUMBER: SA2XXDIP-C290D530U830-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	1.3
10°-20°	117.8	3.8
20°-30°	173.2	5.5
30°-40°	201.2	6.4
40°-50°	200.9	6.4
50°-60°	175.2	5.6
60°-70°	129.6	4.1
70°-80°	73.4	2.3
80°-90°	21.4	0.7
90°-100°	22.7	0.7
100°-110°	83.2	2.7
110°-120°	222.3	7.1
120°-130°	366.9	11.7
130°-140°	390.2	12.5
140°-150°	362.7	11.6
150°-160°	291.6	9.3
160°-170°	187.9	6.0
170°-180°	64.7	2.1
0°-30°	332.9	10.6
0°-40°	534.0	17.1
0°-60°	910.2	29.1
0°-90°	1134.6	36.3
90°-120°	328.1	10.5
90°-150°	1447.9	46.3
90°-180°	1992.0	63.7
0°-180°	3126.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	0	6	10	12	13	2
95°	32	17	19	22	21	39
105°	150	156	30	35	37	160
115°	283	291	304	86	40	278
125°	400	406	416	419	421	356
135°	495	502	507	512	511	382
145°	574	574	582	585	583	359
155°	632	628	634	636	632	291
165°	666	663	664	668	664	188
175°	681	678	679	682	677	65
180°	680	680	680	680	680	



TEST NUMBER: P331255-830

CATALOG NUMBER: SA2XXDIP-C290D530U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.2	6.3	6.4	6.5	6.6	6.7	6.7	6.7	6.8	6.8	6.6
90°	0.5	1.7	2.9	4.1	5.3	6.3	7.3	8.1	9.0	9.8	10.4
92.5°	9.9	9.8	9.7	9.6	9.5	9.7	10.1	10.6	10.9	11.4	11.7
95°	32.0	28.4	24.8	21.1	17.5	16.1	16.9	17.6	18.4	19.2	19.7
97.5°	63.4	53.3	43.2	33.0	22.8	18.6	20.4	22.1	23.9	25.6	26.1
100°	87.1	72.1	57.1	42.1	27.1	20.6	22.4	24.3	26.2	28.0	28.9
102.5°	113.0	109.9	106.7	103.5	100.4	91.0	75.5	59.9	44.4	28.8	30.0
105°	149.5	152.8	156.1	159.4	162.7	149.4	119.5	89.7	59.9	30.0	31.2
107.5°	191.1	193.8	196.4	199.1	201.7	185.1	149.4	113.6	77.8	42.0	40.8
110°	217.9	220.2	222.5	224.8	227.1	212.4	180.9	149.3	117.6	86.1	75.1



TEST NUMBER: P331255-830

CATALOG NUMBER: SA2XXDIP-C290D530U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	243.1	245.2	247.1	249.2	251.2	248.4	240.5	232.7	224.9	217.2	177.2
115°	282.9	284.6	286.5	288.4	290.3	292.6	295.3	298.0	300.8	303.5	252.9
117.5°	318.4	320.5	322.5	324.6	326.7	328.7	330.5	332.4	334.3	336.1	324.0
120°	344.3	345.9	347.6	349.2	350.9	352.7	354.7	356.7	358.5	360.5	361.8
122.5°	366.4	368.1	369.9	371.6	373.2	375.2	377.3	379.5	381.6	383.8	384.6
125°	399.9	401.3	402.7	404.2	405.6	407.4	409.4	411.5	413.6	415.7	416.4
127.5°	430.3	431.9	433.5	435.0	436.6	438.2	439.7	441.3	442.8	444.4	445.4
130°	449.6	451.3	453.1	454.9	456.6	458.1	459.3	460.4	461.7	462.9	464.1
132.5°	469.3	470.7	472.2	473.7	475.2	476.5	477.8	479.0	480.1	481.4	482.4
135°	494.8	496.6	498.3	500.1	501.8	503.2	504.2	505.2	506.1	507.1	508.2
137.5°	520.8	521.9	523.1	524.3	525.6	526.8	527.9	529.0	530.1	531.2	532.3
140°	537.6	538.5	539.4	540.3	541.1	542.2	543.4	544.6	545.7	547.0	548.0
142.5°	551.8	552.6	553.4	554.1	555.0	556.0	557.4	558.7	560.2	561.6	562.4
145°	574.0	573.9	573.8	573.7	573.6	574.5	576.4	578.2	580.0	581.9	582.7
147.5°	593.4	593.0	592.6	592.2	591.7	592.5	594.3	596.2	597.9	599.8	600.4
150°	606.0	605.2	604.5	603.7	602.9	603.4	605.2	606.9	608.7	610.4	611.1
152.5°	616.6	615.8	614.9	614.1	613.2	613.6	615.3	617.0	618.6	620.3	620.9
155°	632.1	631.1	630.1	629.1	628.1	628.3	629.6	630.9	632.3	633.6	634.2
157.5°	644.1	643.4	642.5	641.7	640.8	640.9	641.8	642.7	643.7	644.6	645.3
160°	651.3	650.6	650.0	649.3	648.7	648.7	649.3	650.0	650.6	651.3	652.0
162.5°	657.5	656.9	656.2	655.5	655.0	654.9	655.4	656.0	656.6	657.1	657.9
165°	666.0	665.3	664.7	664.0	663.4	663.3	663.5	663.8	664.2	664.5	665.3
167.5°	672.3	671.7	671.0	670.3	669.7	669.5	669.8	670.1	670.4	670.7	671.5
170°	675.8	675.2	674.6	673.9	673.3	673.0	673.3	673.4	673.6	673.9	674.7
172.5°	678.3	677.6	676.9	676.3	675.6	675.3	675.6	675.8	676.0	676.3	677.0
175°	681.3	680.5	679.8	679.0	678.2	678.0	678.2	678.3	678.5	678.8	679.6
177.5°	681.7	681.2	680.5	680.0	679.3	679.0	679.1	679.2	679.3	679.4	680.0
180°	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8



TEST NUMBER: P331255-830

CATALOG NUMBER: SA2XXDIP-C290D530U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	6.5	6.4	6.3	6.2	6.2	6.1	6.1	6.1
90°	10.9	11.5	12.1	12.4	12.6	12.8	13.1	13.3
92.5°	12.0	12.3	12.5	12.7	12.9	13.0	13.2	13.3
95°	20.3	20.8	21.4	21.6	21.5	21.4	21.3	21.1
97.5°	26.6	27.0	27.4	27.7	27.8	28.0	28.1	28.3
100°	29.8	30.6	31.6	32.0	32.3	32.5	32.7	33.0
102.5°	31.1	32.2	33.4	34.1	34.4	34.7	35.0	35.3
105°	32.4	33.6	34.8	35.6	36.1	36.5	36.9	37.4
107.5°	39.6	38.4	37.1	36.8	37.1	37.6	38.0	38.5
110°	64.2	53.3	42.3	37.1	37.5	38.0	38.5	38.8



TEST NUMBER: P331255-830

CATALOG NUMBER: SA2XXDIP-C290D530U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	137.3	97.5	57.6	37.9	38.2	38.5	38.9	39.2
115°	202.3	151.7	101.0	71.8	63.9	56.1	48.2	40.3
117.5°	311.7	299.4	287.2	268.2	242.2	216.4	190.6	164.7
120°	363.2	364.5	365.8	359.1	344.3	329.6	314.8	300.0
122.5°	385.3	386.2	386.9	385.9	383.0	380.1	377.3	374.4
125°	417.2	417.9	418.7	419.2	419.6	419.9	420.3	420.6
127.5°	446.6	447.7	448.8	449.4	449.5	449.6	449.6	449.7
130°	465.2	466.5	467.7	468.3	468.1	468.0	467.9	467.8
132.5°	483.4	484.5	485.5	485.9	485.8	485.7	485.6	485.5
135°	509.3	510.4	511.5	512.0	511.7	511.5	511.3	511.0
137.5°	533.4	534.4	535.6	535.8	535.5	535.1	534.8	534.4
140°	548.9	549.9	550.9	551.1	550.5	550.1	549.5	548.9
142.5°	563.4	564.2	565.1	565.3	564.8	564.2	563.6	563.1
145°	583.4	584.2	584.9	585.0	584.6	584.0	583.4	582.9
147.5°	601.0	601.5	602.1	602.1	601.7	601.2	600.8	600.3
150°	611.7	612.4	613.0	613.1	612.6	612.0	611.4	611.0
152.5°	621.6	622.3	622.9	622.8	622.2	621.4	620.7	620.0
155°	634.9	635.6	636.2	636.0	635.2	634.3	633.5	632.5
157.5°	646.0	646.8	647.5	647.5	646.6	645.7	644.9	644.0
160°	652.5	653.2	653.8	653.8	653.1	652.3	651.5	650.7
162.5°	658.6	659.4	660.2	660.1	659.1	658.2	657.2	656.3
165°	666.1	666.8	667.6	667.6	666.8	666.1	665.3	664.5
167.5°	672.2	673.1	673.8	673.7	672.7	671.8	670.7	669.8
170°	675.4	676.2	676.9	676.8	675.8	674.9	673.9	672.9
172.5°	677.8	678.5	679.3	679.2	678.3	677.2	676.3	675.2
175°	680.3	681.1	681.8	681.7	680.6	679.5	678.4	677.3
177.5°	680.6	681.3	681.8	681.7	681.0	680.1	679.4	678.6
180°	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8

(END OF REPORT)