

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: P331243

Luminaire Tested: **SA2XXDIP-C290D330U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

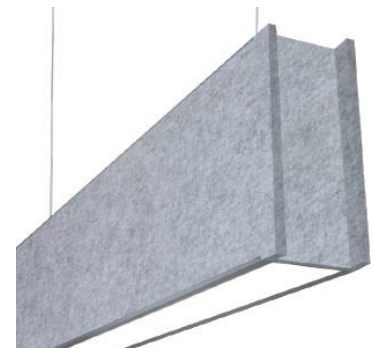
Test Information

Test Method: LM-79-08
Report Number: P331243
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-C290D330U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2506.4 lumens
Efficiency: N/A
Efficacy: 123.5 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: General Diffuse

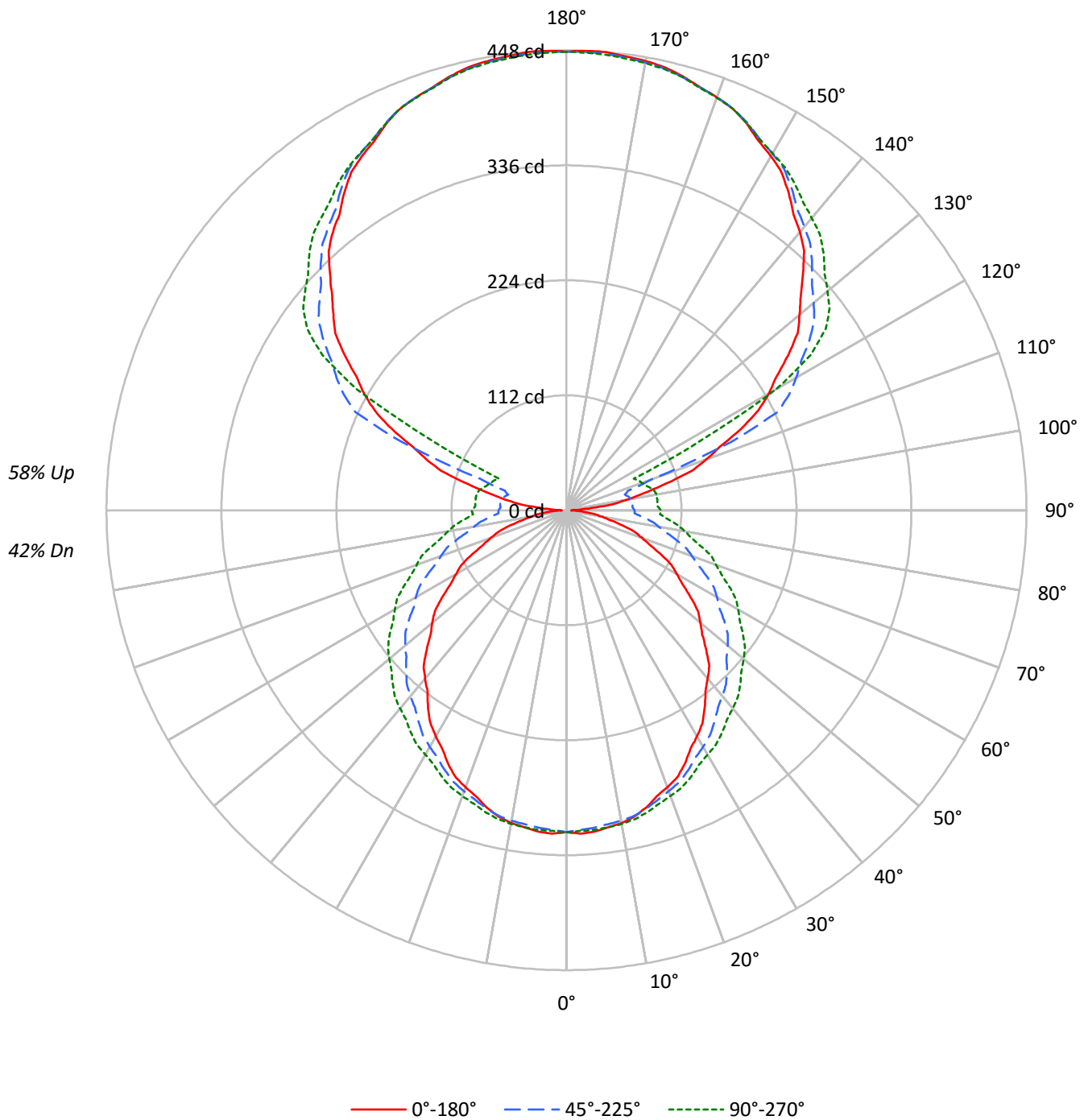
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331243

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331243

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39
2	86	78	71	66	78	71	65	61	58	54	50	47	44	41	36	34	32
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	27
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22
5	65	53	45	39	59	49	41	36	40	34	30	32	28	25	25	22	19
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15
8	51	39	31	25	46	35	28	24	30	24	20	24	20	17	19	16	13
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11

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

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	1.2
10°-20°	85.2	3.4
20°-30°	129.1	5.1
30°-40°	157.2	6.3
40°-50°	169.1	6.7
50°-60°	164.2	6.6
60°-70°	143.4	5.7
70°-80°	110.4	4.4
80°-90°	75.2	3.0
90°-100°	66.0	2.6
100°-110°	91.9	3.7
110°-120°	170.7	6.8
120°-130°	254.9	10.2
130°-140°	262.3	10.5
140°-150°	239.4	9.6
150°-160°	191.7	7.6
160°-170°	123.5	4.9
170°-180°	42.5	1.7
0°-30°	243.9	9.7
0°-40°	401.1	16.0
0°-60°	734.5	29.3
0°-90°	1063.5	42.4
90°-120°	328.6	13.1
90°-150°	1085.2	43.3
90°-180°	1443.0	57.6
0°-180°	2506.4	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	35	66	85	92	4
95°	25	36	65	83	89	29
105°	101	119	59	78	84	108
115°	188	199	227	97	72	185
125°	264	269	289	303	308	235
135°	326	331	338	351	354	252
145°	377	377	382	387	388	236
155°	416	413	416	418	416	191
165°	438	436	437	439	437	124
175°	448	446	446	448	445	43
180°	447	447	447	447	447	

TEST NUMBER: P331243

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D

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	15.1	21.3	27.5	33.7	40.0	46.6	53.2	59.8	66.3	70.5
90°	4.9	11.5	18.2	24.8	31.4	38.3	45.3	52.4	59.4	66.4	70.8
92.5°	10.7	16.1	21.5	26.8	32.2	38.2	44.7	51.2	57.7	64.2	68.3
95°	24.7	27.0	29.4	31.8	34.1	38.6	45.2	51.7	58.3	64.9	69.0
97.5°	44.9	42.4	40.0	37.5	35.0	37.3	44.3	51.3	58.2	65.2	69.2
100°	60.4	54.3	48.2	42.1	36.0	36.4	43.2	50.1	57.0	63.9	68.2
102.5°	77.1	78.4	79.8	81.1	82.4	80.7	76.0	71.3	66.6	61.8	66.2
105°	100.6	105.6	110.7	115.8	120.9	116.3	101.9	87.5	73.2	58.8	63.1
107.5°	127.8	131.9	136.0	140.1	144.1	136.9	118.4	99.9	81.5	63.0	65.5
110°	145.1	148.6	152.1	155.6	159.2	153.0	137.2	121.4	105.6	89.7	85.8

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	161.6	164.6	167.7	170.7	173.7	175.0	174.6	174.2	173.8	173.3	150.4
115°	187.7	190.1	192.4	194.7	197.1	201.4	207.7	214.1	220.4	226.8	196.5
117.5°	210.6	212.7	214.8	216.9	219.0	222.8	228.2	233.6	239.1	244.5	239.4
120°	227.7	229.2	230.7	232.1	233.6	237.0	242.4	247.7	253.0	258.4	262.0
122.5°	242.2	243.5	244.8	246.1	247.4	250.6	255.8	261.0	266.2	271.4	274.7
125°	263.8	264.7	265.6	266.6	267.5	270.3	274.9	279.5	284.1	288.7	291.9
127.5°	283.8	284.7	285.6	286.6	287.5	289.8	293.4	297.0	300.6	304.3	307.5
130°	296.4	297.5	298.5	299.6	300.6	302.6	305.5	308.4	311.3	314.2	317.5
132.5°	309.4	310.2	311.1	312.0	312.9	314.5	316.9	319.4	321.8	324.2	327.2
135°	325.7	326.9	328.0	329.2	330.3	331.7	333.4	335.0	336.7	338.3	341.2
137.5°	342.7	343.5	344.3	345.1	345.9	346.8	348.0	349.2	350.4	351.6	354.1
140°	353.9	354.3	354.8	355.3	355.7	356.5	357.5	358.5	359.5	360.5	362.7
142.5°	363.2	363.6	364.0	364.4	364.8	365.5	366.5	367.4	368.3	369.3	371.2
145°	377.3	377.3	377.2	377.1	377.0	377.6	378.8	380.1	381.3	382.5	383.6
147.5°	390.1	389.8	389.5	389.2	389.0	389.4	390.6	391.9	393.1	394.3	394.7
150°	398.3	397.8	397.3	396.8	396.3	396.7	397.8	399.0	400.1	401.3	401.7
152.5°	405.3	404.8	404.2	403.6	403.1	403.3	404.4	405.5	406.6	407.7	408.1
155°	415.5	414.8	414.2	413.5	412.9	413.0	413.9	414.7	415.6	416.4	416.9
157.5°	423.4	422.9	422.3	421.8	421.2	421.3	421.9	422.5	423.1	423.7	424.2
160°	428.1	427.7	427.2	426.8	426.4	426.4	426.8	427.2	427.7	428.1	428.5
162.5°	432.2	431.8	431.4	430.9	430.5	430.5	430.8	431.2	431.6	432.0	432.5
165°	437.8	437.4	436.9	436.5	436.1	436.0	436.2	436.4	436.6	436.8	437.3
167.5°	441.9	441.5	441.1	440.6	440.2	440.1	440.3	440.5	440.7	440.9	441.4
170°	444.3	443.8	443.4	443.0	442.5	442.4	442.5	442.7	442.8	443.0	443.5
172.5°	445.8	445.4	444.9	444.5	444.1	443.9	444.1	444.2	444.4	444.5	445.0
175°	447.8	447.3	446.8	446.3	445.8	445.6	445.8	445.9	446.1	446.2	446.7
177.5°	448.1	447.7	447.3	446.9	446.5	446.4	446.4	446.5	446.5	446.6	447.0
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8

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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°	74.7	78.9	83.1	85.9	87.2	88.5	89.8	91.1
90°	75.2	79.6	84.0	86.9	88.3	89.6	91.0	92.3
92.5°	72.5	76.6	80.8	83.5	84.8	86.1	87.4	88.7
95°	73.2	77.4	81.6	84.3	85.4	86.6	87.7	88.9
97.5°	73.3	77.3	81.3	84.0	85.2	86.5	87.8	89.1
100°	72.5	76.8	81.1	83.9	85.1	86.4	87.6	88.9
102.5°	70.6	75.0	79.4	82.3	83.6	84.9	86.2	87.5
105°	67.4	71.8	76.1	78.9	80.3	81.7	83.1	84.5
107.5°	68.1	70.7	73.3	75.3	76.7	78.1	79.5	80.9
110°	81.8	77.9	73.9	72.6	74.0	75.4	76.8	78.2

TEST NUMBER: P331243

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	127.4	104.4	81.4	70.6	71.9	73.3	74.6	76.0
115°	166.3	136.0	105.8	88.6	84.6	80.5	76.5	72.4
117.5°	234.4	229.3	224.3	213.7	197.8	181.8	165.8	149.9
120°	265.7	269.4	273.1	270.7	262.1	253.5	244.9	236.3
122.5°	278.0	281.2	284.5	285.6	284.7	283.8	282.8	281.9
125°	295.1	298.3	301.6	303.7	304.9	306.0	307.1	308.2
127.5°	310.7	314.0	317.2	319.3	320.2	321.2	322.1	323.0
130°	320.7	323.9	327.1	329.1	329.8	330.5	331.3	332.0
132.5°	330.3	333.3	336.3	338.2	338.9	339.6	340.4	341.1
135°	344.0	346.9	349.7	351.5	352.1	352.8	353.4	354.1
137.5°	356.7	359.2	361.8	363.3	363.7	364.2	364.6	365.1
140°	365.0	367.2	369.5	370.8	371.0	371.2	371.5	371.7
142.5°	373.1	374.9	376.8	377.8	378.0	378.2	378.3	378.5
145°	384.7	385.8	386.9	387.6	387.7	387.9	388.0	388.1
147.5°	395.2	395.6	396.1	396.3	396.2	396.2	396.1	396.0
150°	402.1	402.5	403.0	403.0	402.7	402.3	401.9	401.6
152.5°	408.6	409.0	409.4	409.4	408.9	408.5	408.0	407.5
155°	417.3	417.7	418.2	418.1	417.5	417.0	416.4	415.8
157.5°	424.7	425.2	425.6	425.6	425.0	424.5	423.9	423.4
160°	429.0	429.4	429.8	429.8	429.3	428.8	428.3	427.8
162.5°	432.9	433.4	433.9	433.9	433.2	432.6	432.0	431.4
165°	437.8	438.3	438.8	438.8	438.3	437.8	437.3	436.8
167.5°	441.9	442.4	442.9	442.8	442.2	441.5	440.9	440.2
170°	444.0	444.5	445.0	444.9	444.3	443.6	443.0	442.3
172.5°	445.5	446.0	446.5	446.5	445.8	445.2	444.5	443.9
175°	447.2	447.7	448.2	448.1	447.4	446.7	445.9	445.2
177.5°	447.4	447.8	448.2	448.1	447.6	447.1	446.6	446.1
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8

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