

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: P331246

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331246
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-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

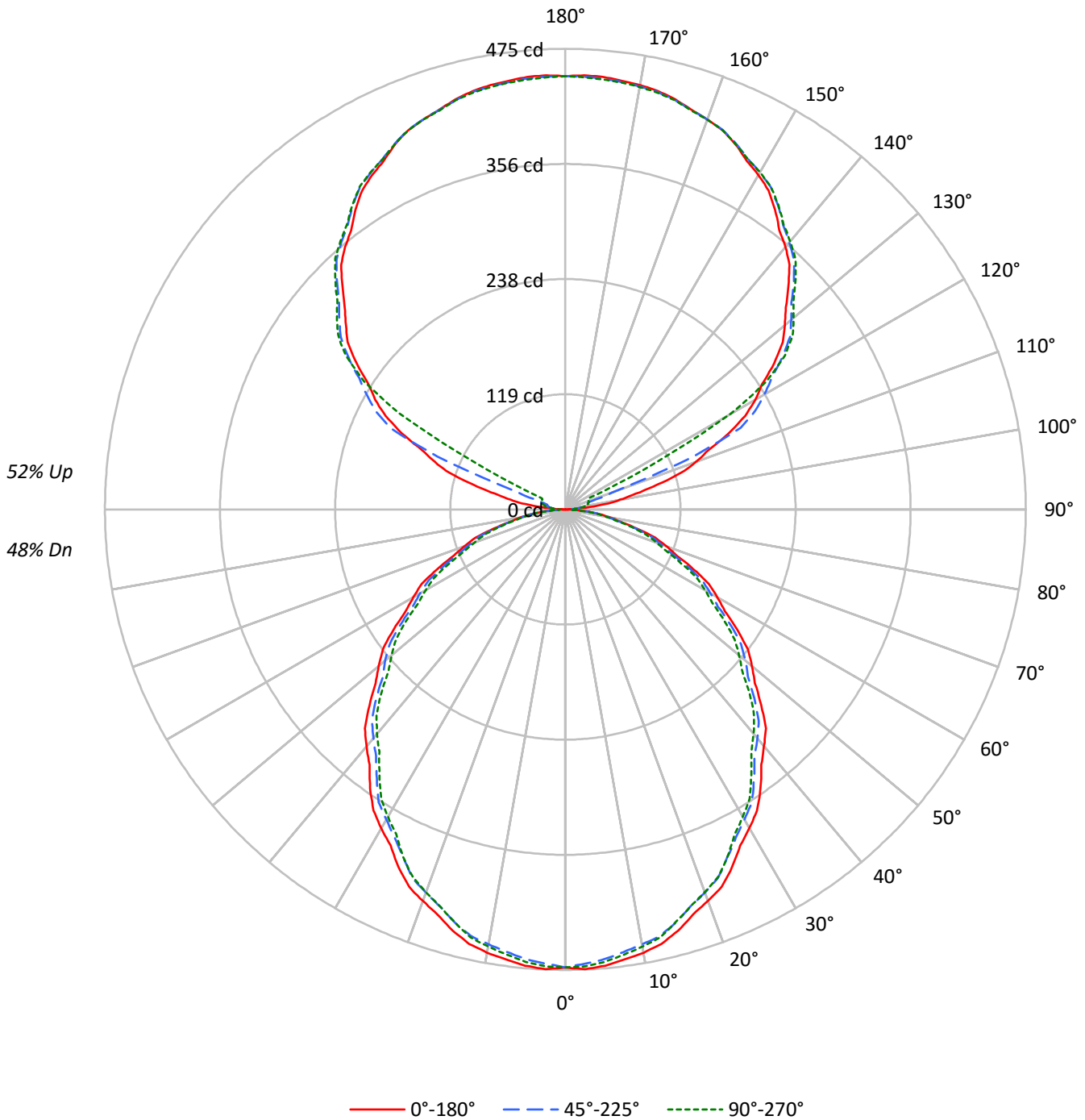
Lumens per Lamp: N/A
Luminaire Lumens: 2512.5 lumens
Efficiency: N/A
Efficacy: 123.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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: P331246
CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	97	93	89	86	89	86	82	79	72	70	67	59	58	56	48	47	46	40
2	89	81	75	70	81	75	70	65	63	59	56	52	49	47	42	40	39	34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	37	35	33	29
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	31	28	25
5	68	56	48	42	62	52	45	40	44	39	34	37	33	29	30	27	25	21
6	62	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19
7	58	46	38	32	53	42	35	30	36	31	26	30	26	23	25	22	19	17
8	54	41	34	28	49	38	32	27	33	27	24	28	23	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	13
10	47	35	27	23	43	32	26	21	28	23	19	24	19	17	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



TEST NUMBER: P331246

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	1.8
10°-20°	125.0	5.0
20°-30°	183.7	7.3
30°-40°	213.4	8.5
40°-50°	213.2	8.5
50°-60°	185.9	7.4
60°-70°	137.5	5.5
70°-80°	77.9	3.1
80°-90°	22.0	0.9
90°-100°	14.9	0.6
100°-110°	54.7	2.2
110°-120°	146.1	5.8
120°-130°	241.2	9.6
130°-140°	256.5	10.2
140°-150°	238.4	9.5
150°-160°	191.7	7.6
160°-170°	123.5	4.9
170°-180°	42.5	1.7
0°-30°	353.2	14.1
0°-40°	566.6	22.6
0°-60°	965.7	38.4
0°-90°	1203.1	47.9
90°-120°	215.7	8.6
90°-150°	951.8	37.9
90°-180°	1309.0	52.1
0°-180°	2512.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	0	4	6	8	9	2
95°	21	11	13	14	14	26
105°	98	103	20	23	25	105
115°	186	192	200	57	26	183
125°	263	267	273	275	276	234
135°	325	330	333	336	336	251
145°	377	377	382	385	383	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: P331246

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.4	6.4	6.2
90°	0.3	1.1	1.9	2.7	3.5	4.2	4.7	5.3	5.9	6.5	6.8
92.5°	6.5	6.5	6.4	6.3	6.2	6.4	6.6	6.9	7.2	7.5	7.7
95°	21.0	18.6	16.3	13.9	11.5	10.6	11.1	11.6	12.1	12.6	13.0
97.5°	41.7	35.0	28.3	21.7	15.0	12.2	13.4	14.5	15.7	16.9	17.2
100°	57.2	47.4	37.5	27.7	17.9	13.5	14.8	16.0	17.2	18.4	19.0
102.5°	74.3	72.2	70.1	68.1	66.0	59.8	49.6	39.4	29.2	18.9	19.7
105°	98.3	100.4	102.6	104.8	106.9	98.2	78.6	59.0	39.3	19.7	20.5
107.5°	125.6	127.4	129.1	130.9	132.6	121.7	98.2	74.7	51.1	27.6	26.8
110°	143.2	144.7	146.3	147.8	149.3	139.6	118.9	98.1	77.3	56.6	49.4



TEST NUMBER: P331246

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.8	161.1	162.5	163.8	165.1	163.2	158.1	153.0	147.8	142.7	116.5
115°	185.9	187.1	188.4	189.6	190.8	192.3	194.1	195.9	197.7	199.5	166.2
117.5°	209.3	210.6	212.0	213.4	214.7	216.0	217.3	218.5	219.7	221.0	212.9
120°	226.3	227.4	228.5	229.6	230.6	231.8	233.1	234.4	235.7	237.0	237.9
122.5°	240.8	242.0	243.1	244.2	245.4	246.6	248.0	249.4	250.9	252.3	252.8
125°	262.9	263.8	264.7	265.7	266.6	267.8	269.1	270.5	271.8	273.2	273.7
127.5°	282.8	283.9	284.9	286.0	287.0	288.0	289.0	290.1	291.1	292.1	292.8
130°	295.5	296.7	297.8	299.0	300.1	301.1	301.9	302.7	303.5	304.3	305.0
132.5°	308.5	309.4	310.4	311.4	312.4	313.2	314.0	314.8	315.6	316.4	317.1
135°	325.3	326.4	327.6	328.7	329.9	330.8	331.4	332.1	332.7	333.4	334.1
137.5°	342.3	343.1	343.9	344.7	345.5	346.3	347.0	347.7	348.5	349.2	349.9
140°	353.4	354.0	354.5	355.1	355.7	356.4	357.2	358.0	358.8	359.5	360.2
142.5°	362.7	363.2	363.7	364.3	364.8	365.5	366.4	367.3	368.2	369.1	369.7
145°	377.3	377.3	377.2	377.1	377.0	377.6	378.8	380.1	381.3	382.5	383.0
147.5°	390.1	389.8	389.5	389.2	389.0	389.4	390.6	391.9	393.1	394.3	394.6
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



TEST NUMBER: P331246

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	6.0	5.9	5.7	5.6	5.5	5.5	5.4	5.4
90°	7.2	7.5	7.9	8.2	8.3	8.4	8.6	8.7
92.5°	7.9	8.1	8.2	8.4	8.5	8.6	8.6	8.7
95°	13.3	13.7	14.0	14.2	14.1	14.0	14.0	13.9
97.5°	17.5	17.7	18.0	18.2	18.3	18.4	18.5	18.6
100°	19.6	20.2	20.7	21.1	21.2	21.4	21.5	21.7
102.5°	20.4	21.2	21.9	22.4	22.6	22.8	23.0	23.2
105°	21.3	22.1	22.9	23.4	23.7	24.0	24.3	24.6
107.5°	26.0	25.2	24.4	24.1	24.4	24.7	25.0	25.3
110°	42.2	35.0	27.8	24.4	24.7	25.0	25.3	25.5



TEST NUMBER: P331246

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	90.3	64.1	37.9	24.9	25.1	25.3	25.6	25.8
115°	133.0	99.7	66.4	47.2	42.0	36.9	31.7	26.5
117.5°	204.9	196.8	188.8	176.3	159.3	142.3	125.3	108.3
120°	238.7	239.6	240.4	236.0	226.3	216.6	206.9	197.2
122.5°	253.3	253.8	254.3	253.6	251.8	249.9	248.0	246.1
125°	274.2	274.7	275.2	275.6	275.8	276.0	276.2	276.4
127.5°	293.6	294.3	295.0	295.4	295.5	295.5	295.5	295.6
130°	305.8	306.6	307.4	307.8	307.7	307.6	307.6	307.5
132.5°	317.8	318.4	319.1	319.4	319.3	319.3	319.2	319.1
135°	334.8	335.5	336.2	336.5	336.4	336.2	336.1	335.9
137.5°	350.6	351.3	352.0	352.2	352.0	351.8	351.5	351.3
140°	360.8	361.5	362.1	362.3	361.9	361.6	361.2	360.8
142.5°	370.3	370.9	371.5	371.6	371.2	370.9	370.5	370.1
145°	383.5	384.0	384.5	384.6	384.2	383.9	383.5	383.1
147.5°	395.0	395.4	395.8	395.8	395.5	395.2	394.9	394.6
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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