

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: P331255-840

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331255-840
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-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: 3350.0 lumens
Efficiency: N/A
Efficacy: 130.9 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

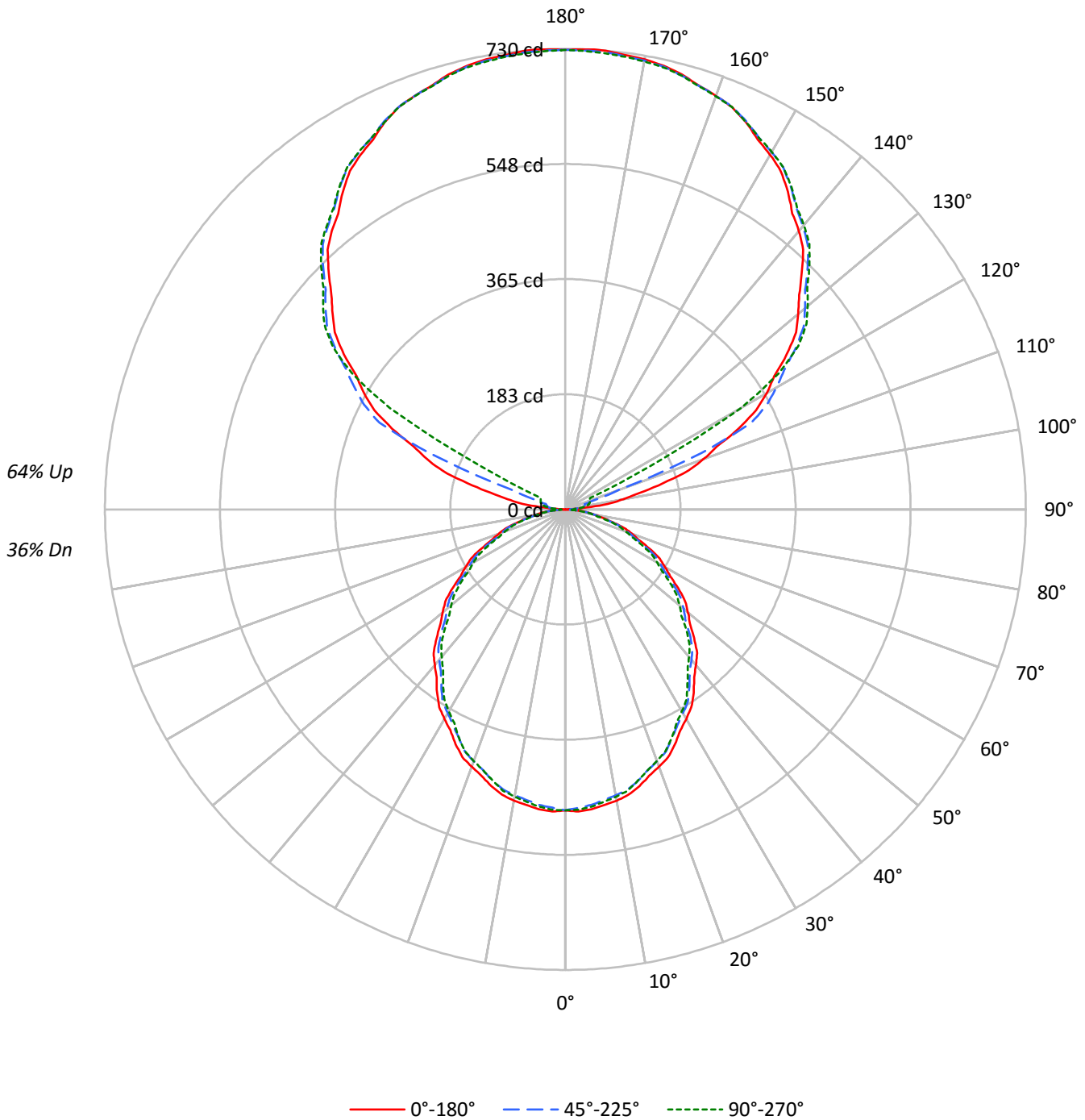
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331255-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-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				
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	38	37	31				
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	34	32	31	26				
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	26	22				
4	72	61	54	48	65	56	49	44	45	41	37	36	32	30	27	25	23	19				
5	66	55	47	41	59	50	43	38	41	35	32	32	28	26	24	22	20	16				
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17	14				
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	17	15	13				
8	52	40	32	27	47	36	30	25	30	25	21	24	20	18	18	16	14	11				
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10				
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7703	7703	7703
5°	7733	7621	7666
10°	7688	7543	7581
15°	7590	7447	7438
20°	7455	7301	7290
25°	7322	7119	7119
30°	7150	6952	6893
35°	6991	6753	6654
40°	6787	6555	6431
45°	6588	6357	6202
50°	6373	6154	5935
55°	6145	5917	5695
60°	5896	5628	5422
65°	5624	5349	5100
70°	5282	4999	4763
75°	4810	4604	4492
80°	4258	4138	3924
85°	3483	3316	2983



TEST NUMBER: P331255-840

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.9	1.3
10°-20°	126.2	3.8
20°-30°	185.5	5.5
30°-40°	215.5	6.4
40°-50°	215.3	6.4
50°-60°	187.7	5.6
60°-70°	138.8	4.1
70°-80°	78.6	2.3
80°-90°	22.9	0.7
90°-100°	24.3	0.7
100°-110°	89.1	2.7
110°-120°	238.2	7.1
120°-130°	393.1	11.7
130°-140°	418.1	12.5
140°-150°	388.6	11.6
150°-160°	312.4	9.3
160°-170°	201.3	6.0
170°-180°	69.3	2.1
0°-30°	356.6	10.6
0°-40°	572.2	17.1
0°-60°	975.2	29.1
0°-90°	1215.6	36.3
90°-120°	351.5	10.5
90°-150°	1551.4	46.3
90°-180°	2134.0	63.7
0°-180°	3350.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	477	475	470	474	473	45
15°	454	451	446	447	445	128
25°	411	407	400	400	400	189
35°	355	350	343	340	338	221
45°	288	285	278	274	272	223
55°	218	215	210	205	202	195
65°	147	144	140	136	134	146
75°	77	76	74	71	72	82
85°	19	18	18	17	16	22
90°	0	6	10	13	14	3
95°	34	18	21	23	23	42
105°	160	167	32	38	40	171
115°	303	312	325	93	43	298
125°	428	436	445	449	451	382
135°	530	538	543	548	548	409
145°	615	615	624	627	624	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: P331255-840

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	479.3	478.9	478.5	478.1	477.7	477.1	476.2	475.2	474.3	473.4	474.2
5°	477.1	476.7	476.3	475.8	475.4	474.7	473.6	472.5	471.3	470.2	471.0
7.5°	472.9	472.2	471.6	471.0	470.4	469.5	468.4	467.2	466.1	464.9	465.7
10°	468.9	468.2	467.5	466.8	466.0	465.0	463.8	462.6	461.4	460.1	460.9
12.5°	463.3	462.7	462.1	461.4	460.8	459.9	458.7	457.5	456.3	455.0	455.6
15°	454.1	453.5	452.9	452.3	451.7	450.8	449.4	448.1	446.8	445.5	445.9
17.5°	442.4	441.8	441.2	440.6	440.0	439.0	437.7	436.3	434.9	433.6	434.0
20°	433.9	433.3	432.7	432.1	431.5	430.5	429.1	427.7	426.3	424.9	425.2
22.5°	425.6	424.6	423.8	422.9	422.1	421.0	419.7	418.3	417.0	415.7	415.7
25°	411.0	410.2	409.4	408.6	407.8	406.5	404.8	403.0	401.3	399.6	399.8
27.5°	394.6	393.8	393.0	392.3	391.6	390.5	389.2	387.8	386.5	385.1	384.8
30°	383.5	382.7	381.9	381.1	380.2	379.1	377.6	376.1	374.5	372.9	372.6
32.5°	371.7	371.1	370.5	369.8	369.2	368.0	366.4	364.9	363.2	361.6	361.0
35°	354.7	353.6	352.5	351.5	350.5	349.2	347.6	346.0	344.4	342.6	342.0
37.5°	335.3	334.4	333.5	332.5	331.6	330.4	328.8	327.2	325.5	323.9	323.2
40°	322.0	321.2	320.4	319.6	318.8	317.6	315.9	314.3	312.7	311.0	310.1
42.5°	309.2	308.4	307.6	306.8	306.0	304.7	303.1	301.4	299.8	298.2	297.2
45°	288.5	287.8	287.1	286.4	285.7	284.6	283.1	281.6	280.0	278.4	277.3
47.5°	268.0	267.3	266.7	266.0	265.3	264.2	262.6	261.1	259.4	257.8	256.6
50°	253.7	253.2	252.7	252.2	251.7	250.6	249.2	247.8	246.4	245.0	243.6
52.5°	239.7	239.0	238.4	237.7	237.0	236.0	234.7	233.4	232.0	230.7	229.4
55°	218.3	217.7	217.1	216.5	215.9	215.0	213.8	212.6	211.4	210.2	208.8
57.5°	196.9	196.4	195.9	195.4	194.9	194.0	192.7	191.4	190.0	188.6	187.4
60°	182.6	182.2	181.8	181.4	181.0	180.1	178.6	177.2	175.7	174.3	173.2
62.5°	168.6	167.9	167.3	166.7	166.0	165.1	164.0	163.0	161.9	160.8	159.7
65°	147.2	146.6	146.0	145.4	144.8	144.0	143.0	142.0	141.0	140.0	139.0
67.5°	125.5	125.0	124.5	124.0	123.6	122.9	121.9	121.0	120.1	119.2	118.5
70°	111.9	111.5	111.1	110.7	110.3	109.7	108.8	107.9	106.8	105.9	105.2
72.5°	98.0	97.6	97.1	96.7	96.3	95.8	95.2	94.7	94.1	93.5	92.8
75°	77.1	76.9	76.6	76.4	76.2	75.9	75.4	74.8	74.3	73.8	73.2
77.5°	58.4	58.0	57.7	57.4	57.0	56.7	56.5	56.2	56.0	55.8	55.5
80°	45.8	45.7	45.6	45.5	45.4	45.3	45.1	44.9	44.7	44.5	44.2
82.5°	34.1	34.1	34.1	34.0	34.0	33.9	33.8	33.7	33.6	33.5	33.1
85°	18.8	18.7	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.6
87.5°	6.7	6.8	6.9	7.0	7.1	7.2	7.2	7.2	7.3	7.3	7.1
90°	0.5	1.8	3.1	4.3	5.7	6.8	7.8	8.7	9.6	10.5	11.1
92.5°	10.6	10.5	10.4	10.3	10.2	10.4	10.8	11.3	11.7	12.2	12.5
95°	34.2	30.4	26.6	22.6	18.8	17.3	18.1	18.9	19.7	20.6	21.1
97.5°	68.0	57.1	46.3	35.3	24.4	19.9	21.8	23.7	25.7	27.5	28.0
100°	93.3	77.3	61.2	45.1	29.1	22.1	24.0	26.1	28.1	30.0	31.0
102.5°	121.1	117.8	114.3	110.9	107.6	97.5	80.9	64.2	47.6	30.9	32.1
105°	160.2	163.7	167.2	170.8	174.3	160.1	128.1	96.1	64.1	32.1	33.4
107.5°	204.8	207.6	210.5	213.3	216.1	198.3	160.1	121.7	83.3	45.0	43.7
110°	233.5	235.9	238.4	240.9	243.3	227.6	193.8	160.0	126.0	92.2	80.5



TEST NUMBER: P331255-840

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.4	262.7	264.8	267.0	269.1	266.1	257.7	249.3	241.0	232.7	189.9
115°	303.1	305.0	307.0	309.0	311.0	313.5	316.4	319.3	322.2	325.2	270.9
117.5°	341.1	343.4	345.6	347.8	350.0	352.1	354.2	356.2	358.2	360.1	347.1
120°	368.9	370.6	372.4	374.2	376.0	377.9	380.0	382.1	384.2	386.3	387.7
122.5°	392.5	394.4	396.3	398.1	399.9	402.0	404.2	406.6	408.9	411.2	412.0
125°	428.5	430.0	431.5	433.0	434.5	436.5	438.7	440.9	443.1	445.4	446.2
127.5°	461.0	462.7	464.4	466.1	467.8	469.5	471.1	472.8	474.4	476.2	477.3
130°	481.7	483.5	485.4	487.4	489.2	490.8	492.1	493.3	494.6	495.9	497.3
132.5°	502.8	504.3	505.9	507.6	509.2	510.6	511.9	513.2	514.4	515.7	516.8
135°	530.2	532.1	533.9	535.8	537.7	539.2	540.2	541.3	542.3	543.3	544.5
137.5°	558.0	559.2	560.5	561.8	563.1	564.4	565.6	566.8	567.9	569.2	570.4
140°	576.0	576.9	577.9	578.9	579.8	580.9	582.2	583.5	584.7	586.0	587.1
142.5°	591.2	592.1	592.9	593.7	594.6	595.7	597.2	598.6	600.2	601.7	602.6
145°	615.0	614.9	614.8	614.7	614.6	615.5	617.5	619.5	621.5	623.5	624.3
147.5°	635.8	635.3	634.9	634.5	634.0	634.8	636.7	638.7	640.7	642.7	643.3
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: P331255-840

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	475.0	475.8	476.7	477.1	476.9	476.7	476.6	476.4
5°	471.9	472.7	473.5	473.8	473.6	473.4	473.2	473.0
7.5°	466.6	467.4	468.2	468.5	468.3	468.0	467.8	467.6
10°	461.8	462.6	463.4	463.6	463.3	463.0	462.7	462.4
12.5°	456.2	456.7	457.3	457.5	457.3	457.0	456.8	456.6
15°	446.3	446.7	447.1	447.1	446.6	446.1	445.6	445.0
17.5°	434.5	435.0	435.5	435.5	434.9	434.5	434.0	433.5
20°	425.5	425.8	426.1	426.0	425.6	425.2	424.7	424.3
22.5°	415.8	415.9	415.9	415.8	415.6	415.3	415.1	414.9
25°	400.0	400.2	400.4	400.4	400.2	400.0	399.8	399.6
27.5°	384.5	384.2	383.8	383.4	382.9	382.4	382.0	381.5
30°	372.3	372.0	371.7	371.4	371.0	370.6	370.2	369.7
32.5°	360.5	359.9	359.4	358.9	358.5	358.1	357.7	357.3
35°	341.4	340.8	340.2	339.7	339.2	338.7	338.2	337.6
37.5°	322.3	321.6	320.8	320.2	319.7	319.2	318.8	318.3
40°	309.2	308.3	307.4	306.7	306.3	305.9	305.5	305.1
42.5°	296.2	295.2	294.2	293.4	292.9	292.3	291.8	291.1
45°	276.2	275.1	274.0	273.2	272.8	272.4	272.0	271.6
47.5°	255.5	254.3	253.1	252.2	251.7	251.1	250.4	249.8
50°	242.2	240.7	239.2	238.3	237.8	237.3	236.8	236.3
52.5°	228.3	227.1	225.9	225.0	224.3	223.7	223.0	222.3
55°	207.6	206.4	205.2	204.4	203.9	203.3	202.8	202.3
57.5°	186.2	185.0	183.8	183.0	182.7	182.3	181.9	181.5
60°	172.1	171.0	169.9	169.2	168.8	168.5	168.2	167.9
62.5°	158.6	157.6	156.6	155.9	155.5	155.1	154.7	154.3
65°	138.0	137.1	136.2	135.5	135.0	134.5	134.0	133.5
67.5°	117.8	117.0	116.3	115.7	115.3	114.9	114.5	114.1
70°	104.5	103.8	103.1	102.6	102.2	101.7	101.3	100.9
72.5°	92.1	91.4	90.7	90.1	89.8	89.5	89.2	88.8
75°	72.6	72.0	71.4	71.2	71.4	71.6	71.8	72.0
77.5°	55.2	54.9	54.6	54.3	54.0	53.8	53.5	53.2
80°	43.9	43.6	43.3	43.0	42.8	42.6	42.4	42.2
82.5°	32.7	32.3	31.9	31.7	31.7	31.6	31.6	31.6
85°	17.3	17.0	16.7	16.5	16.4	16.3	16.2	16.1
87.5°	7.0	6.9	6.8	6.7	6.7	6.6	6.6	6.6
90°	11.7	12.3	12.9	13.3	13.5	13.7	14.0	14.2
92.5°	12.8	13.1	13.4	13.6	13.8	13.9	14.1	14.2
95°	21.7	22.3	22.9	23.1	23.0	22.9	22.8	22.6
97.5°	28.5	28.9	29.4	29.7	29.8	30.0	30.1	30.3
100°	31.9	32.8	33.8	34.3	34.6	34.8	35.0	35.3
102.5°	33.3	34.5	35.7	36.6	36.9	37.2	37.5	37.9
105°	34.7	36.1	37.3	38.2	38.7	39.1	39.6	40.1
107.5°	42.4	41.1	39.8	39.4	39.8	40.3	40.7	41.2
110°	68.8	57.1	45.3	39.8	40.2	40.7	41.2	41.6



TEST NUMBER: P331255-840

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	147.1	104.4	61.7	40.6	40.9	41.3	41.7	42.0
115°	216.7	162.5	108.3	77.0	68.5	60.1	51.6	43.2
117.5°	334.0	320.8	307.7	287.3	259.5	231.9	204.2	176.4
120°	389.1	390.5	391.9	384.8	368.9	353.1	337.3	321.4
122.5°	412.8	413.7	414.5	413.4	410.4	407.3	404.2	401.1
125°	447.0	447.8	448.6	449.2	449.6	449.9	450.3	450.6
127.5°	478.5	479.7	480.9	481.5	481.6	481.7	481.7	481.8
130°	498.5	499.8	501.1	501.7	501.5	501.4	501.3	501.2
132.5°	518.0	519.1	520.2	520.6	520.5	520.4	520.3	520.2
135°	545.7	546.8	548.1	548.6	548.3	548.1	547.9	547.5
137.5°	571.5	572.6	573.8	574.1	573.7	573.3	573.0	572.6
140°	588.1	589.2	590.3	590.5	589.9	589.4	588.8	588.1
142.5°	603.6	604.5	605.5	605.7	605.1	604.5	603.9	603.3
145°	625.1	625.9	626.7	626.8	626.3	625.7	625.1	624.5
147.5°	643.9	644.5	645.1	645.1	644.7	644.2	643.7	643.2
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

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