

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: P331245-935

Luminaire Tested: **SA2XXDIP-C290D330U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331245-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

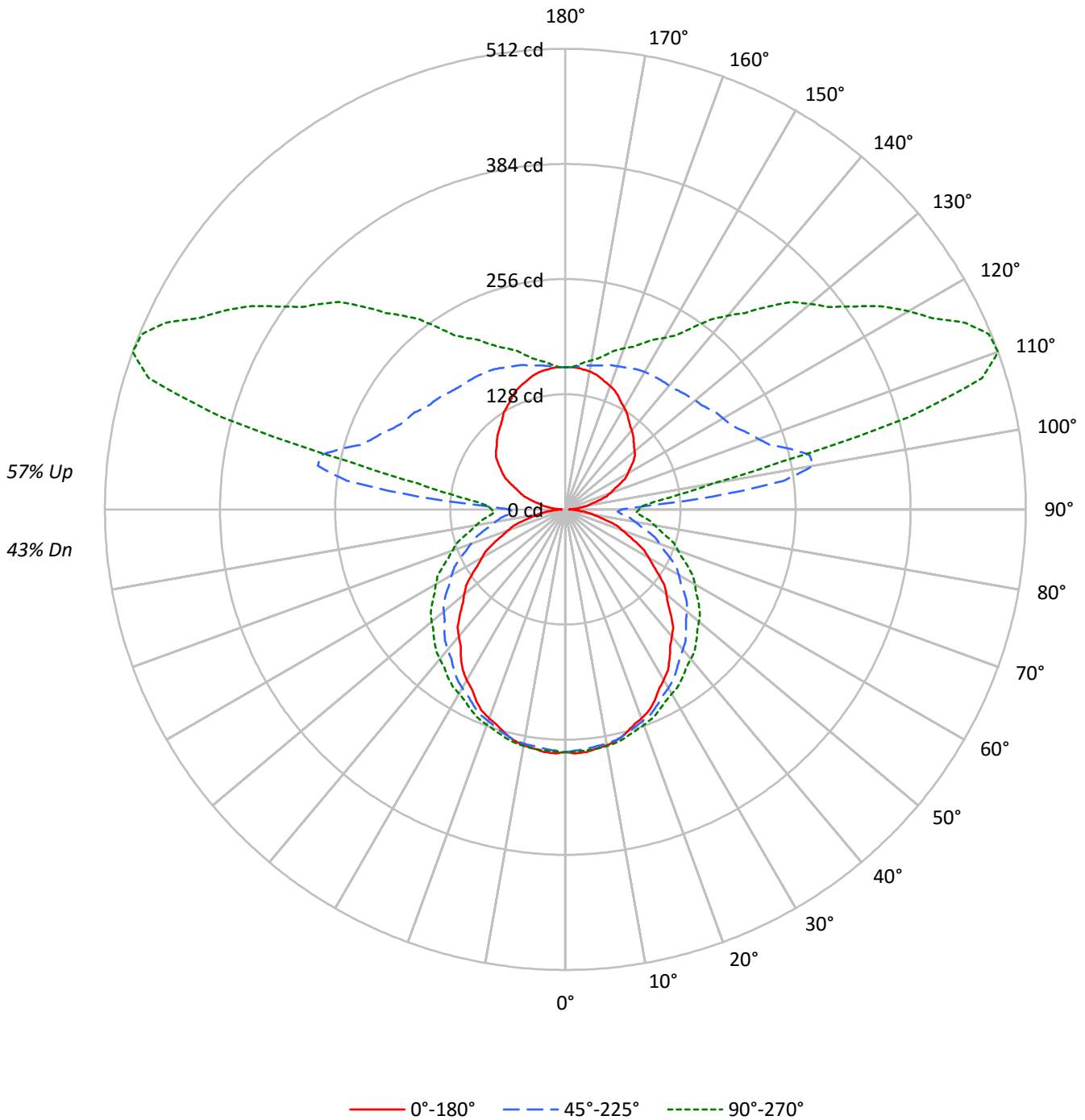
Lumens per Lamp: N/A
Luminaire Lumens: 2131.8 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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: P331245-935
CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331245-935

CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4358	4358	4358
5°	4379	4195	4179
10°	4352	4070	4026
15°	4290	3939	3863
20°	4215	3798	3707
25°	4141	3663	3565
30°	4034	3524	3423
35°	3928	3389	3323
40°	3818	3275	3223
45°	3709	3172	3137
50°	3596	3079	3053
55°	3474	2979	2968
60°	3329	2876	2878
65°	3174	2756	2769
70°	3001	2623	2653
75°	2784	2499	2544
80°	2445	2366	2436
85°	2110	2255	2350



TEST NUMBER: P331245-935

CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.6	1.2
10°-20°	73.3	3.4
20°-30°	111.1	5.2
30°-40°	135.3	6.3
40°-50°	145.6	6.8
50°-60°	141.4	6.6
60°-70°	123.5	5.8
70°-80°	95.1	4.5
80°-90°	65.2	3.1
90°-100°	107.2	5.0
100°-110°	246.7	11.6
110°-120°	249.2	11.7
120°-130°	199.5	9.4
130°-140°	155.7	7.3
140°-150°	114.8	5.4
150°-160°	80.1	3.8
160°-170°	47.1	2.2
170°-180°	15.3	0.7
0°-30°	210.0	9.9
0°-40°	345.4	16.2
0°-60°	632.4	29.7
0°-90°	916.1	43.0
90°-120°	603.2	28.3
90°-150°	1073.2	50.3
90°-180°	1216.0	57.0
0°-180°	2131.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	270	270	270	270	270	
5°	271	269	267	269	269	26
15°	258	259	259	262	262	73
25°	235	237	241	245	247	108
35°	202	209	216	225	228	126
45°	166	177	190	202	206	128
55°	127	142	162	175	181	114
65°	87	106	129	145	150	86
75°	48	70	95	111	117	51
85°	14	38	63	79	85	15
90°	4	31	62	77	82	3
95°	14	48	164	104	99	14
105°	39	70	259	450	394	42
115°	67	89	212	424	491	66
125°	92	109	195	339	393	82
135°	108	128	184	277	319	83
145°	122	141	178	224	246	77
155°	139	150	173	196	204	64
165°	152	156	166	176	179	43
175°	158	158	159	161	161	15
180°	158	158	158	158	158	



TEST NUMBER: P331245-935

CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	271.5	271.2	271.0	270.8	270.6	270.3	269.8	269.3	268.8	268.3	268.6
5°	270.7	270.4	270.2	269.9	269.6	269.2	268.7	268.2	267.7	267.2	267.7
7.5°	268.2	268.0	267.9	267.7	267.5	267.3	266.8	266.5	266.0	265.6	266.3
10°	266.4	266.2	266.0	265.9	265.7	265.4	265.2	264.9	264.7	264.4	265.1
12.5°	263.2	263.3	263.3	263.4	263.4	263.3	263.1	262.9	262.7	262.5	263.2
15°	258.1	258.3	258.5	258.6	258.8	258.9	258.9	258.9	258.9	258.9	259.7
17.5°	251.6	251.9	252.3	252.7	253.0	253.4	253.7	253.9	254.2	254.5	255.3
20°	247.2	247.6	248.1	248.5	248.9	249.3	249.7	250.0	250.4	250.7	251.7
22.5°	242.5	243.0	243.5	244.0	244.5	245.0	245.5	246.0	246.5	246.9	247.9
25°	234.7	235.3	235.9	236.5	237.1	237.8	238.6	239.4	240.1	240.9	241.9
27.5°	225.3	226.3	227.3	228.3	229.3	230.2	231.1	232.0	233.0	233.9	235.2
30°	219.0	220.2	221.3	222.4	223.5	224.7	225.8	227.0	228.1	229.2	230.6
32.5°	212.2	213.4	214.6	215.9	217.2	218.5	219.9	221.2	222.6	223.9	225.5
35°	202.2	203.7	205.2	206.6	208.1	209.7	211.4	213.0	214.6	216.3	218.2
37.5°	191.4	193.1	194.8	196.6	198.2	200.2	202.3	204.4	206.6	208.7	210.9
40°	184.3	186.1	188.0	189.9	191.8	194.0	196.3	198.7	201.0	203.4	205.6
42.5°	177.4	179.3	181.2	183.0	185.0	187.3	190.0	192.7	195.4	198.0	200.5
45°	165.8	168.2	170.6	172.9	175.2	177.9	181.0	184.0	187.0	190.1	192.8
47.5°	154.5	157.0	159.6	162.1	164.7	167.8	171.3	174.9	178.5	182.0	184.9
50°	146.7	149.4	152.1	154.7	157.5	160.7	164.7	168.6	172.5	176.4	179.3
52.5°	139.1	142.0	144.8	147.7	150.5	153.9	158.1	162.2	166.3	170.5	173.5
55°	127.1	130.3	133.4	136.5	139.7	143.4	148.0	152.5	157.0	161.5	164.7
57.5°	115.2	118.7	122.3	125.8	129.3	133.4	138.0	142.6	147.2	151.9	155.2
60°	106.8	110.6	114.3	118.0	121.7	126.1	131.0	136.0	140.9	145.9	149.2
62.5°	99.3	103.1	107.0	110.9	114.8	119.2	124.2	129.1	134.1	139.1	142.5
65°	86.8	91.1	95.3	99.6	103.8	108.6	113.7	118.8	124.0	129.1	132.7
67.5°	75.4	79.9	84.3	88.8	93.2	98.1	103.3	108.6	113.8	119.1	122.7
70°	67.2	71.8	76.3	80.8	85.3	90.3	95.7	101.1	106.5	111.8	115.6
72.5°	59.8	64.4	69.1	73.7	78.4	83.4	88.9	94.4	99.9	105.3	109.0
75°	48.1	53.0	57.9	62.7	67.6	72.8	78.4	83.9	89.5	95.1	98.8
77.5°	36.9	41.9	47.0	52.1	57.3	62.6	68.3	73.9	79.6	85.2	88.9
80°	29.4	34.6	40.0	45.2	50.5	56.1	61.6	67.3	72.9	78.6	82.2
82.5°	23.1	28.3	33.6	38.7	44.0	49.5	55.2	61.0	66.6	72.3	76.0
85°	14.1	19.5	24.9	30.2	35.6	41.1	46.7	52.3	57.8	63.4	67.0
87.5°	7.7	13.1	18.5	23.8	29.1	34.7	40.6	46.5	52.4	58.1	61.6
90°	4.2	10.2	16.4	22.0	27.7	33.9	41.0	48.7	56.1	62.0	65.2
92.5°	7.3	13.6	20.5	26.6	33.3	41.2	53.5	68.4	82.5	88.3	85.6
95°	13.8	19.1	26.2	33.1	42.0	53.9	73.1	104.8	145.3	164.2	152.7
97.5°	20.1	25.3	32.2	40.0	49.2	61.8	84.4	126.3	189.9	245.2	258.4
100°	26.2	30.3	36.2	44.3	53.6	66.2	87.2	129.2	199.8	279.5	326.5
102.5°	31.4	35.0	40.7	48.6	57.8	70.2	89.8	127.5	193.0	278.4	350.5
105°	39.1	42.8	47.4	54.5	63.7	75.8	94.6	126.2	180.9	259.1	343.0
107.5°	47.8	50.7	54.8	61.0	69.7	81.5	99.6	127.6	173.4	238.6	313.0
110°	53.3	56.2	59.8	65.5	73.6	85.4	103.1	129.2	170.7	228.4	294.2



TEST NUMBER: P331245-935

CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	58.6	61.3	64.8	70.0	77.6	89.5	106.4	131.1	168.8	220.8	280.3
115°	67.0	69.5	72.2	76.8	83.9	94.5	111.5	134.0	167.4	212.1	262.8
117.5°	75.3	77.1	79.5	83.3	89.8	100.5	116.2	137.2	166.7	206.0	250.4
120°	80.6	82.1	84.3	87.4	93.8	104.3	119.6	139.5	166.4	202.4	243.5
122.5°	85.7	86.8	88.8	91.9	98.1	108.6	123.0	141.5	166.4	199.6	237.4
125°	92.0	93.0	94.8	98.4	104.5	114.4	128.2	144.6	166.3	194.6	228.3
127.5°	97.4	98.5	101.0	105.0	110.7	120.5	133.4	147.9	166.6	190.8	219.8
130°	100.6	101.7	104.6	108.8	114.9	124.2	136.6	150.1	167.1	188.4	214.2
132.5°	103.5	104.9	108.1	112.4	118.7	127.9	139.5	152.2	167.6	186.2	209.3
135°	107.5	108.7	112.4	116.9	123.9	132.9	143.4	155.0	168.0	183.5	202.7
137.5°	111.6	113.0	116.7	121.6	128.5	136.6	146.5	156.9	168.3	181.2	197.3
140°	114.8	115.9	119.5	124.2	130.9	138.8	148.1	157.7	168.2	179.7	194.2
142.5°	118.0	118.8	122.2	126.9	133.3	140.7	149.6	158.9	168.5	179.0	191.5
145°	122.3	123.6	126.6	131.1	137.2	143.9	152.1	160.7	169.1	178.2	188.6
147.5°	127.4	128.3	131.2	135.4	140.5	146.5	154.2	161.7	169.4	177.2	185.8
150°	130.8	131.7	134.1	138.1	142.7	148.2	155.2	162.1	169.1	176.4	183.7
152.5°	134.2	134.7	137.1	140.5	144.9	149.8	156.1	162.4	168.7	175.2	182.0
155°	139.1	139.3	141.1	144.5	147.8	152.4	157.6	162.7	167.9	173.1	178.9
157.5°	143.0	143.4	144.8	147.7	150.4	154.2	158.6	162.7	166.5	170.9	175.9
160°	145.7	146.0	147.2	149.6	152.1	155.5	159.1	162.7	165.8	169.4	173.7
162.5°	148.4	148.2	149.5	151.4	153.6	156.2	159.4	162.5	165.1	168.2	171.8
165°	151.5	151.2	151.8	153.6	155.2	157.0	159.7	161.9	163.7	165.8	168.5
167.5°	154.0	153.7	154.2	155.4	156.5	157.6	159.6	161.4	162.3	163.7	165.4
170°	155.8	155.2	155.5	156.4	157.0	157.9	159.4	160.9	161.5	162.5	163.7
172.5°	156.7	156.4	156.2	157.1	157.5	158.2	159.2	160.2	160.6	161.0	162.0
175°	157.9	157.6	157.3	157.9	157.9	158.2	158.8	159.4	159.1	159.4	159.7
177.5°	158.4	157.9	157.7	158.2	158.2	158.2	158.4	158.9	158.4	158.2	158.4
180°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2



TEST NUMBER: P331245-935

CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	269.0	269.3	269.7	269.8	269.7	269.5	269.4	269.2
5°	268.2	268.7	269.2	269.4	269.3	269.2	269.1	269.1
7.5°	266.9	267.5	268.2	268.5	268.4	268.3	268.2	268.1
10°	265.8	266.5	267.2	267.5	267.4	267.3	267.3	267.2
12.5°	263.9	264.6	265.3	265.6	265.5	265.4	265.4	265.3
15°	260.5	261.3	262.1	262.4	262.3	262.3	262.2	262.1
17.5°	256.1	256.9	257.7	258.1	258.1	258.1	258.1	258.1
20°	252.6	253.6	254.5	255.0	255.0	255.0	255.0	255.0
22.5°	248.9	249.9	250.8	251.3	251.5	251.6	251.8	251.9
25°	243.1	244.1	245.1	245.7	246.0	246.2	246.5	246.8
27.5°	236.5	237.9	239.2	240.0	240.1	240.3	240.5	240.7
30°	232.0	233.4	234.8	235.6	235.8	236.1	236.3	236.6
32.5°	227.0	228.7	230.3	231.4	231.8	232.3	232.7	233.2
35°	220.2	222.1	223.9	225.2	225.8	226.4	227.0	227.6
37.5°	212.9	215.1	217.2	218.6	219.2	219.9	220.5	221.1
40°	207.9	210.2	212.4	214.0	214.7	215.5	216.3	217.1
42.5°	203.0	205.4	207.9	209.6	210.3	211.1	211.9	212.7
45°	195.4	198.2	200.9	202.7	203.5	204.4	205.3	206.1
47.5°	187.7	190.5	193.3	195.2	196.1	197.1	198.0	199.0
50°	182.3	185.3	188.2	190.2	191.1	192.1	193.0	194.0
52.5°	176.5	179.5	182.5	184.6	185.6	186.7	187.7	188.6
55°	167.8	170.9	174.1	176.2	177.3	178.5	179.6	180.7
57.5°	158.6	162.0	165.3	167.6	168.8	169.9	171.0	172.2
60°	152.5	155.8	159.1	161.4	162.6	163.8	165.1	166.3
62.5°	146.0	149.6	153.1	155.4	156.5	157.6	158.9	160.0
65°	136.2	139.7	143.4	145.7	146.8	147.9	149.0	150.2
67.5°	126.2	129.8	133.5	135.9	137.0	138.2	139.4	140.6
70°	119.3	123.0	126.8	129.2	130.3	131.3	132.3	133.4
72.5°	112.6	116.3	119.9	122.4	123.6	124.9	126.2	127.4
75°	102.5	106.2	110.0	112.4	113.6	114.7	115.8	116.9
77.5°	92.6	96.3	100.0	102.5	103.8	105.0	106.2	107.4
80°	85.9	89.5	93.2	95.7	96.9	98.1	99.3	100.5
82.5°	79.6	83.3	87.0	89.4	90.5	91.7	92.8	93.9
85°	70.7	74.3	78.0	80.4	81.6	82.8	84.0	85.2
87.5°	65.1	68.4	72.2	74.6	75.7	76.7	77.8	79.0
90°	68.3	71.2	75.3	77.8	78.9	79.9	80.9	82.0
92.5°	82.1	81.8	82.7	83.0	83.8	83.9	85.2	85.7
95°	131.3	116.1	106.6	102.0	99.1	97.7	97.9	99.2
97.5°	234.0	203.5	173.7	153.9	140.3	133.9	130.5	129.0
100°	323.3	288.8	250.3	215.6	191.3	179.2	171.3	166.8
102.5°	381.1	375.7	348.4	311.4	284.9	263.6	253.5	247.0
105°	409.3	446.8	453.7	445.7	427.8	409.9	397.8	394.5
107.5°	383.0	437.7	472.3	489.0	492.2	492.1	490.5	485.9
110°	361.2	418.4	460.1	486.9	500.9	507.7	511.3	512.0



TEST NUMBER: P331245-935

CATALOG NUMBER: SA2XXDIP-C290D330U935-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	341.0	396.0	440.4	470.9	490.0	500.7	506.8	509.4
115°	315.6	365.0	407.5	440.6	463.1	478.1	487.0	490.7
117.5°	295.6	339.3	378.1	409.1	432.0	447.7	456.9	460.1
120°	285.2	325.4	360.0	389.4	411.6	426.9	436.7	440.7
122.5°	276.6	313.5	346.4	373.0	393.0	407.9	416.5	419.8
125°	263.8	297.5	326.6	350.9	369.4	381.8	390.1	393.4
127.5°	251.2	281.7	309.1	331.6	347.8	359.4	366.7	369.4
130°	243.1	271.3	297.5	318.9	334.5	345.5	352.3	355.4
132.5°	235.2	261.4	285.5	305.7	321.2	332.2	338.5	341.3
135°	224.3	246.2	268.0	286.4	300.1	310.9	317.0	318.9
137.5°	215.0	233.4	251.0	266.9	279.4	288.6	294.0	296.4
140°	209.2	225.2	240.6	254.9	265.2	273.6	278.7	281.0
142.5°	204.7	218.2	231.3	243.3	253.0	260.6	265.2	266.0
145°	198.5	209.1	219.0	228.3	236.0	241.6	245.1	246.4
147.5°	193.9	201.8	209.3	215.9	222.1	226.4	228.7	229.5
150°	191.1	197.8	204.1	209.6	214.1	217.8	219.6	220.0
152.5°	188.4	194.6	200.0	204.7	208.4	211.5	212.8	212.9
155°	184.7	189.5	194.1	197.4	200.8	202.9	204.1	203.5
157.5°	180.4	184.4	188.2	190.9	193.2	195.0	195.5	195.5
160°	177.6	181.0	184.3	186.5	188.6	190.1	190.5	190.5
162.5°	175.0	177.9	180.7	182.4	184.5	185.5	185.8	185.5
165°	171.0	173.1	175.2	176.4	177.6	178.9	178.9	178.6
167.5°	167.1	168.8	170.2	171.3	171.9	172.5	172.5	172.1
170°	165.2	166.1	167.3	167.9	168.2	169.1	168.8	168.2
172.5°	163.0	163.7	164.6	165.0	165.3	165.7	165.4	165.1
175°	160.7	160.9	161.3	161.5	161.5	161.9	161.5	160.9
177.5°	158.9	158.9	159.2	159.2	159.2	159.2	158.9	158.4
180°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2

(END OF REPORT)