

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: P331767-935

Luminaire Tested: **S122RDIW-S290D435U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331767-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D435U935-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2380.6 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

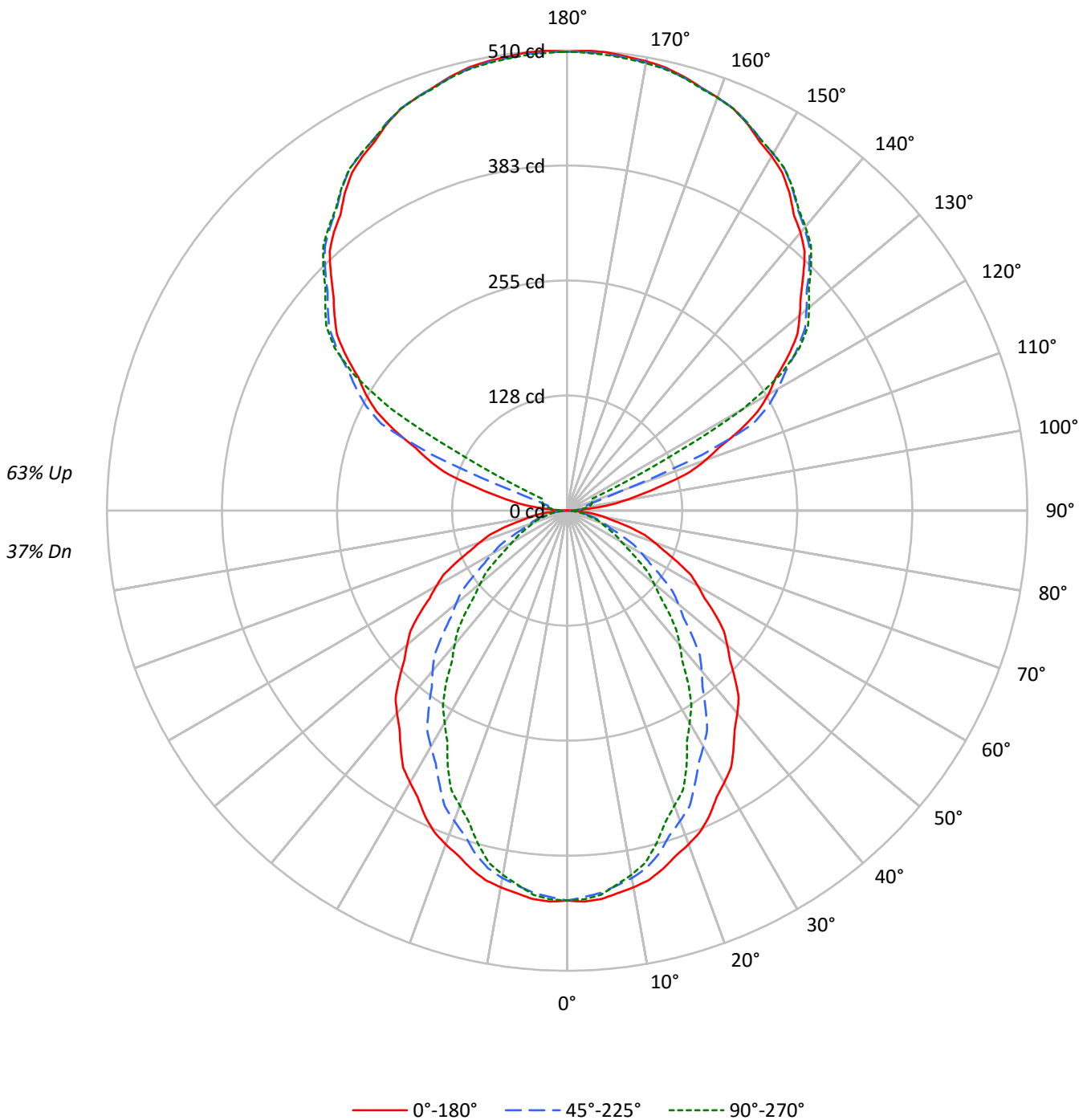
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	37
1	95	91	88	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28
3	80	71	64	58	72	64	58	54	53	48	45	42	39	36	32	30	28	24
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	29	26	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	38	32	52	42	35	30	35	29	26	28	24	21	22	19	17	14
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	17	16	13
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	18	16	14	12
10	46	34	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6978	6978	6978
5°	7005	6891	6929
10°	6951	6779	6720
15°	6870	6578	6387
20°	6761	6290	5976
25°	6649	5964	5574
30°	6490	5630	5062
35°	6337	5267	4610
40°	6182	4890	4089
45°	6003	4464	3617
50°	5815	4037	3152
55°	5624	3578	2711
60°	5406	3094	2251
65°	5154	2598	2048
70°	4858	2143	1884
75°	4492	1953	1759
80°	3961	1748	1599
85°	3112	1371	1371



TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	1.7
10°-20°	111.1	4.7
20°-30°	156.0	6.6
30°-40°	170.1	7.1
40°-50°	156.4	6.6
50°-60°	122.8	5.2
60°-70°	80.1	3.4
70°-80°	41.3	1.7
80°-90°	12.0	0.5
90°-100°	17.0	0.7
100°-110°	62.2	2.6
110°-120°	166.3	7.0
120°-130°	274.5	11.5
130°-140°	291.9	12.3
140°-150°	271.3	11.4
150°-160°	218.2	9.2
160°-170°	140.6	5.9
170°-180°	48.4	2.0
0°-30°	307.5	12.9
0°-40°	477.6	20.1
0°-60°	756.8	31.8
0°-90°	890.2	37.4
90°-120°	245.5	10.3
90°-150°	1083.3	45.5
90°-180°	1490.0	62.6
0°-180°	2380.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	430	425	428	428	41
15°	411	406	394	386	382	116
25°	373	360	335	319	313	172
35°	322	301	267	243	234	201
45°	263	236	196	169	158	203
55°	200	169	127	104	96	179
65°	135	103	68	55	54	134
75°	72	45	31	29	28	76
85°	17	9	7	7	7	20
90°	0	4	7	9	10	2
95°	24	13	14	16	16	29
105°	112	117	22	26	28	120
115°	212	218	227	65	30	208
125°	299	304	311	313	315	267
135°	370	376	379	383	382	286
145°	430	429	435	438	436	269
155°	473	470	474	476	473	218
165°	498	496	497	500	497	141
175°	510	507	508	510	507	48
180°	509	509	509	509	509	



TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	433.8	433.4	433.1	432.7	432.4	431.8	431.0	430.3	429.6	428.8	429.5
5°	432.2	431.8	431.4	430.9	430.5	429.6	428.5	427.4	426.3	425.2	425.9
7.5°	427.7	427.2	426.6	426.1	425.6	424.6	423.4	422.0	420.7	419.4	419.6
10°	424.0	423.4	422.8	422.1	421.5	420.3	418.6	416.9	415.2	413.5	413.2
12.5°	419.3	418.5	417.8	417.1	416.3	414.8	412.6	410.4	408.1	405.9	405.4
15°	411.0	410.1	409.1	408.2	407.3	405.3	402.3	399.4	396.4	393.5	391.8
17.5°	401.0	399.5	398.0	396.6	395.1	392.5	388.7	385.0	381.2	377.4	375.4
20°	393.5	391.8	390.0	388.2	386.5	383.5	379.1	374.8	370.5	366.1	363.9
22.5°	385.4	383.4	381.4	379.5	377.5	374.1	369.2	364.3	359.5	354.6	351.7
25°	373.2	370.3	367.6	364.8	362.1	357.7	352.0	346.3	340.5	334.8	331.2
27.5°	358.4	355.4	352.4	349.4	346.3	341.6	335.1	328.6	322.2	315.7	311.6
30°	348.1	344.8	341.5	338.2	334.9	329.8	322.8	315.9	308.9	302.0	297.6
32.5°	338.1	334.2	330.4	326.5	322.6	317.2	310.1	303.0	295.9	288.8	283.8
35°	321.5	317.1	312.6	308.2	303.8	297.7	290.1	282.4	274.8	267.2	261.7
37.5°	305.0	300.1	295.2	290.3	285.4	279.0	270.8	262.6	254.5	246.3	240.3
40°	293.3	288.2	282.9	277.7	272.5	265.7	257.3	248.8	240.4	232.0	225.8
42.5°	281.5	276.0	270.4	265.0	259.5	252.4	243.7	235.0	226.3	217.6	211.2
45°	262.9	257.0	251.2	245.4	239.5	232.0	222.9	213.8	204.7	195.5	189.4
47.5°	244.7	238.5	232.4	226.2	220.0	212.2	202.8	193.4	183.9	174.5	168.4
50°	231.5	225.4	219.2	213.0	206.9	199.0	189.4	179.9	170.3	160.7	154.7
52.5°	218.7	212.2	205.9	199.4	193.0	185.0	175.6	166.3	157.0	147.6	141.8
55°	199.8	193.1	186.3	179.5	172.7	164.7	155.2	145.9	136.5	127.1	121.9
57.5°	180.6	173.6	166.6	159.7	152.7	144.7	135.7	126.7	117.7	108.7	103.8
60°	167.4	160.5	153.5	146.5	139.6	131.6	122.7	113.7	104.8	95.8	91.4
62.5°	154.5	147.7	140.7	133.7	126.7	119.0	110.5	101.9	93.4	84.9	80.7
65°	134.9	127.9	120.9	113.8	106.8	99.4	91.5	83.7	75.9	68.0	65.1
67.5°	116.0	109.0	102.0	95.1	88.1	81.0	74.0	67.0	59.9	52.9	51.5
70°	102.9	96.1	89.3	82.6	75.8	69.4	63.4	57.3	51.4	45.4	44.5
72.5°	90.3	83.9	77.3	70.9	64.3	58.7	53.9	49.1	44.3	39.4	38.7
75°	72.0	65.9	59.8	53.7	47.6	43.1	40.1	37.2	34.3	31.3	30.7
77.5°	53.9	48.6	43.2	37.9	32.5	29.2	27.7	26.3	24.9	23.5	23.2
80°	42.6	38.2	33.8	29.4	24.9	22.2	21.4	20.5	19.6	18.8	18.4
82.5°	32.3	28.8	25.4	22.0	18.5	16.4	15.8	15.2	14.6	14.1	13.9
85°	16.8	15.0	13.2	11.4	9.6	8.4	8.2	7.9	7.7	7.4	7.4
87.5°	5.1	4.7	4.3	4.0	3.6	3.4	3.6	3.7	3.9	4.0	4.0
90°	0.3	1.3	2.2	3.1	4.0	4.7	5.4	6.0	6.7	7.3	7.7
92.5°	7.4	7.3	7.2	7.1	7.1	7.2	7.6	7.9	8.2	8.5	8.8
95°	23.9	21.2	18.5	15.8	13.1	12.1	12.7	13.2	13.8	14.4	14.7
97.5°	47.4	39.9	32.3	24.6	17.0	13.9	15.2	16.5	17.9	19.2	19.5
100°	65.2	53.9	42.7	31.5	20.3	15.4	16.8	18.2	19.5	21.0	21.6
102.5°	84.6	82.2	79.8	77.5	75.1	68.1	56.5	44.9	33.2	21.5	22.4
105°	111.8	114.3	116.8	119.2	121.7	111.8	89.5	67.1	44.8	22.5	23.3
107.5°	143.0	145.0	147.0	149.0	150.9	138.5	111.8	85.0	58.2	31.4	30.5
110°	163.0	164.7	166.4	168.2	169.9	158.9	135.3	111.7	88.0	64.4	56.2



TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.8	183.4	184.9	186.4	188.0	185.8	179.9	174.1	168.2	162.5	132.6
115°	211.6	213.0	214.4	215.8	217.1	218.9	220.9	223.0	225.0	227.0	189.2
117.5°	238.2	239.7	241.3	242.8	244.4	245.9	247.3	248.7	250.1	251.5	242.4
120°	257.6	258.8	260.0	261.3	262.5	263.9	265.4	266.8	268.3	269.8	270.7
122.5°	274.1	275.3	276.6	277.9	279.2	280.7	282.3	283.9	285.5	287.1	287.7
125°	299.2	300.2	301.4	302.4	303.4	304.7	306.3	307.9	309.4	311.0	311.5
127.5°	321.9	323.1	324.3	325.5	326.7	327.8	329.0	330.1	331.3	332.4	333.3
130°	336.4	337.7	339.0	340.3	341.6	342.7	343.6	344.5	345.4	346.3	347.2
132.5°	351.1	352.1	353.3	354.4	355.5	356.5	357.4	358.3	359.2	360.2	360.9
135°	370.2	371.5	372.8	374.1	375.5	376.4	377.2	378.0	378.7	379.4	380.2
137.5°	389.6	390.5	391.4	392.4	393.2	394.1	394.9	395.8	396.6	397.4	398.2
140°	402.3	402.9	403.6	404.2	404.8	405.6	406.6	407.4	408.3	409.2	409.9
142.5°	412.8	413.5	414.0	414.6	415.2	416.0	417.0	418.0	419.0	420.1	420.8
145°	429.5	429.4	429.3	429.2	429.1	429.8	431.2	432.6	433.9	435.3	435.9
147.5°	443.9	443.7	443.3	443.1	442.7	443.2	444.6	446.0	447.4	448.8	449.2
150°	453.4	452.8	452.2	451.7	451.1	451.4	452.8	454.1	455.4	456.7	457.2
152.5°	461.3	460.7	460.0	459.4	458.7	459.1	460.3	461.6	462.8	464.1	464.5
155°	472.9	472.2	471.4	470.7	469.9	470.1	471.1	472.0	473.0	474.0	474.5
157.5°	481.9	481.3	480.7	480.1	479.5	479.5	480.2	480.9	481.6	482.2	482.8
160°	487.2	486.7	486.3	485.8	485.3	485.3	485.8	486.3	486.7	487.2	487.8
162.5°	492.0	491.5	490.9	490.5	490.0	490.0	490.3	490.8	491.2	491.6	492.2
165°	498.3	497.8	497.3	496.8	496.3	496.2	496.5	496.7	497.0	497.1	497.7
167.5°	503.0	502.5	502.0	501.5	501.0	500.9	501.1	501.4	501.6	501.8	502.4
170°	505.7	505.1	504.6	504.2	503.7	503.5	503.7	503.9	504.0	504.2	504.7
172.5°	507.4	507.0	506.4	505.9	505.4	505.3	505.4	505.6	505.8	505.9	506.5
175°	509.7	509.1	508.5	508.0	507.4	507.2	507.4	507.6	507.6	507.8	508.4
177.5°	510.1	509.6	509.1	508.7	508.2	508.0	508.1	508.2	508.2	508.2	508.8
180°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6



TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	430.2	430.8	431.5	431.8	431.7	431.5	431.4	431.3
5°	426.7	427.5	428.3	428.5	428.3	428.0	427.7	427.5
7.5°	419.8	420.1	420.3	420.2	419.7	419.2	418.8	418.4
10°	412.9	412.7	412.4	412.0	411.5	411.0	410.4	409.9
12.5°	405.0	404.5	404.1	403.4	402.5	401.7	400.8	399.9
15°	390.2	388.5	386.8	385.6	384.8	383.8	383.0	382.1
17.5°	373.4	371.4	369.5	367.8	366.3	364.8	363.3	361.8
20°	361.8	359.6	357.4	355.3	353.4	351.5	349.7	347.8
22.5°	349.0	346.1	343.4	341.2	339.8	338.4	336.9	335.5
25°	327.7	324.1	320.6	318.1	316.8	315.5	314.2	312.9
27.5°	307.4	303.2	299.1	296.0	293.9	291.9	289.8	287.7
30°	293.1	288.7	284.2	280.9	278.4	276.1	273.8	271.5
32.5°	278.7	273.6	268.5	264.9	262.8	260.5	258.3	256.1
35°	256.2	250.7	245.2	241.5	239.6	237.7	235.8	233.9
37.5°	234.3	228.3	222.2	218.1	215.9	213.7	211.5	209.3
40°	219.6	213.4	207.2	203.0	200.8	198.5	196.2	194.0
42.5°	204.7	198.4	192.0	187.8	185.5	183.4	181.2	179.0
45°	183.2	177.0	170.9	166.8	164.7	162.6	160.5	158.4
47.5°	162.2	156.1	150.0	145.9	144.0	142.2	140.3	138.4
50°	148.8	142.8	136.7	132.9	131.0	129.2	127.3	125.5
52.5°	136.0	130.3	124.5	120.7	119.1	117.4	115.6	114.0
55°	116.7	111.5	106.2	102.8	101.2	99.5	97.9	96.3
57.5°	99.1	94.3	89.5	86.4	85.1	83.7	82.3	80.8
60°	87.0	82.6	78.1	75.2	73.8	72.4	71.0	69.7
62.5°	76.5	72.2	68.0	65.4	64.6	63.8	62.9	62.1
65°	62.2	59.2	56.2	54.6	54.3	54.1	53.8	53.6
67.5°	50.2	48.8	47.4	46.7	46.3	46.1	45.8	45.5
70°	43.7	42.8	41.9	41.3	40.9	40.6	40.2	39.9
72.5°	38.0	37.2	36.5	36.1	35.8	35.6	35.4	35.2
75°	30.0	29.4	28.8	28.5	28.4	28.3	28.2	28.2
77.5°	22.7	22.4	22.0	21.9	21.7	21.5	21.4	21.3
80°	18.1	17.7	17.4	17.2	17.2	17.2	17.2	17.2
82.5°	13.7	13.4	13.3	13.2	13.2	13.2	13.2	13.2
85°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
87.5°	4.0	4.0	4.0	4.0	4.0	4.1	4.1	4.2
90°	8.2	8.6	9.0	9.3	9.5	9.6	9.8	9.9
92.5°	9.0	9.2	9.4	9.6	9.6	9.7	9.8	9.9
95°	15.2	15.6	16.0	16.2	16.1	16.0	15.9	15.8
97.5°	19.9	20.2	20.5	20.8	20.8	20.9	21.0	21.1
100°	22.3	22.9	23.6	24.0	24.2	24.4	24.5	24.6
102.5°	23.2	24.1	25.0	25.5	25.7	26.0	26.2	26.4
105°	24.3	25.1	26.1	26.7	26.9	27.3	27.6	28.0
107.5°	29.6	28.7	27.7	27.5	27.8	28.2	28.4	28.8
110°	48.0	39.9	31.7	27.7	28.1	28.4	28.8	29.1



TEST NUMBER: P331767-935

CATALOG NUMBER: S122RDIW-S290D435U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.8	72.9	43.1	28.3	28.6	28.8	29.1	29.4
115°	151.4	113.5	75.6	53.7	47.9	41.9	36.1	30.1
117.5°	233.2	224.0	214.8	200.6	181.2	161.9	142.6	123.2
120°	271.7	272.7	273.7	268.6	257.6	246.6	235.5	224.5
122.5°	288.3	288.9	289.5	288.7	286.5	284.4	282.2	280.1
125°	312.1	312.7	313.2	313.7	313.9	314.2	314.4	314.6
127.5°	334.2	334.9	335.8	336.2	336.3	336.3	336.4	336.4
130°	348.1	349.0	349.9	350.3	350.3	350.2	350.1	350.0
132.5°	361.7	362.4	363.2	363.5	363.4	363.3	363.3	363.3
135°	381.1	381.9	382.7	383.0	382.9	382.7	382.5	382.4
137.5°	399.1	399.8	400.6	400.9	400.6	400.4	400.1	399.8
140°	410.7	411.5	412.2	412.3	411.9	411.5	411.1	410.7
142.5°	421.5	422.1	422.8	422.9	422.5	422.1	421.7	421.3
145°	436.5	437.0	437.6	437.7	437.3	436.9	436.5	436.1
147.5°	449.6	450.0	450.5	450.5	450.1	449.8	449.4	449.1
150°	457.7	458.1	458.7	458.7	458.3	457.9	457.4	457.1
152.5°	465.0	465.5	466.1	466.0	465.5	464.9	464.3	463.8
155°	475.0	475.4	476.0	475.9	475.2	474.6	473.9	473.3
157.5°	483.4	483.9	484.5	484.4	483.8	483.1	482.5	481.9
160°	488.2	488.7	489.2	489.1	488.6	488.0	487.4	486.9
162.5°	492.8	493.4	493.9	493.8	493.1	492.4	491.7	491.0
165°	498.3	498.9	499.5	499.5	498.9	498.3	497.7	497.1
167.5°	503.0	503.5	504.1	504.0	503.3	502.6	501.8	501.1
170°	505.3	505.9	506.4	506.4	505.7	504.9	504.2	503.4
172.5°	507.0	507.6	508.2	508.2	507.4	506.7	505.9	505.2
175°	509.0	509.5	510.1	510.1	509.2	508.4	507.6	506.8
177.5°	509.2	509.6	510.1	510.1	509.5	508.9	508.2	507.7
180°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6

(END OF REPORT)